UNDER THE SUPERINTENDENCE OF THE SOCIETY FOR THE DIFFUSION OF USEFUL KNOWLEDGE.

THE

Companion to the Almanac;

OR

YEAR-BOOK

OF

GENERAL INFORMATION

FOR

1839.

CONTAINING,

INFORMATION CONNECTED WITH THE CALENDAR

AND THE

NATURAL PHENOMENA OF THE YEAR, &c.;

AND WITH

NATURAL HISTORY AND PUBLIC HEALTH.

II. GENERAL INFORMATION ON SUBJECTS OF

CHRONOLOGY, GEOGRAPHY, STATISTICS, *&c.*

III. THE LEGISLATION, STATISTICS, PUBLIC IMPROVEMENTS AND CHRONICLE, OF 1838.

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COMPANION TO THE ALMANAC

FOR

1839.

PART I.

INFORMATION CONNECTED WITH THE CALENDAR AND THE NATURAL PHENOMENA OF THE YEAR; AND WITH NATURAL HISTORY AND PUBLIC HEALTH.

I.—ON THE SUPPOSED INFLUENCE OF THE MOON UPON THE WEATHER.

M. Bouvard published in the 7th volume of the 'Mémoires de l'Institut'* an elaborate discussion of meteorological observations made at the Observatory of Paris; and he was led to conclude that the influence of the moon on the atmosphere is insensible. M. Bouvard appears only to have attempted to ascertain the existence of a *semi-menstrual* inequality, by combining observations of the barometer made in the first and third quarters, and those in the second and fourth quarters; so that his results do not exclude the possibility of the existence of a *menstrual* variation in the atmospheric pressure. The results which are exhibited in the following pages, tend to show that this variation is also extremely minute, and all attempts founded upon it to predict the weather must prove, I fear, utterly futile.

The following are M. Bouvard's results reduced to inches:—

Time of ☽'s Transit.	Height of Barometer.			
h. m.	9 A.M. inch.	Noon. inch.	3 P.M. inch.	
10 20	29.762	29.670	29.729	
11 10	29.772	29.765	29.745	
0 0	29.776	29.763	29.740	Syzygy.
50	29.771	29.759	29.742	
1 40	29.768	29.758	29.739	
4 20	29.790	29.779	29.753	
5 10	29.805	29.798	29.780	
6 0	29.806	29.791	29.765	Quadrature.
6 50	29.779	29.768	29.748	
7 40	29.781	29.770	29.753	

In order to ascertain whether any variation takes place in the dew-point, and also in the thermometer and barometer, corresponding to the moon's age, I proceeded upon the plan described in my papers on the tides, and with the assistance of Mr. David Jones

* "La valeur numérique que nous avons trouvé pour 2 R., est si petite qu'on peut regarder comme insensible l'action de la lune sur l'atmosphère à la latitude de Paris." —p. 296.

and of Mr. Russell, I have prepared some tables which I shall presently describe, founded upon the meteorological observations which have been made at the apartments of the Royal Society in Somerset House.

I began by separating the observations made there at nine o'clock in the morning during 1835 and 1836, into four categories.

1. Those of the first six months, and the first two quarters of the moon;

2. Those of the first six months and the last two quarters of the moon;

3. Those of the last six months and the first two quarters of the moon;

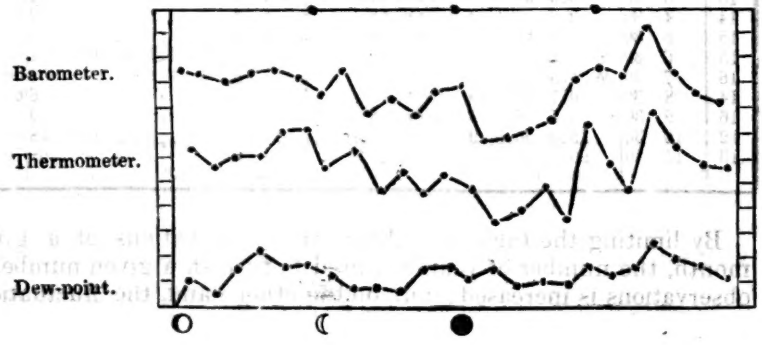
4. Those of the last 6 months and the last 2 quarters of the moon.

I shall not insert these tables, but content myself with stating, that there appeared to be no distinct difference between the results corresponding to categories 1 and 3, and 2 and 4. I therefore neglected these sub-divisions, and the following table was prepared, exhibiting the height of the barometer, the attached thermometer, and the dew-point at nine o'clock, A.M., from the observations made at the Royal Society during 1835 and 1836.

No. of Obs.	☾'s Transit. A.M.	Height of Bar.	Attached Therm. Fahr.	Dew-point. Daniel's Hygrom.	No. of Obs.	☾'s Transit. P.M.	Height of Bar.	Attached Therm. Fahr.	Dew-point. Daniel's Hygrom.
	○ h. m.	inch.				● h. m.	inch.		
31	0 29	29·900	54·4	45·9	21	0 35	29·859	54·9	45·4
26	1 29	29·866	54·4	45·4	28	1 30	29·885	55·4	46·2
32	2 29	29·814	53·8	44·5	34	2 30	29·992	54·4	45·7
29	3 31	29·780	52·0	42·6	28	3 32	29·932	55·5	46·4
31	4 31	29·868	55·4	44·6	33	4 33	29·943	53·7	44·2
30	5 31	29·899	54·2	44·3	28	5 34	29·900	54·3	45·5
30	☾ 6 31	29·872	52·7	44·9	29	☽ 6 31	29·844	52·4	44·9
29	7 29	29·945	56·8	46·5	31	7 30	22·863	52·8	44·6
30	8 28	29·928	55·4	47·0	27	8 29	29·760	53·8	44·8
30	9 29	29·928	56·3	47·3	30	9 27	29·869	53·8	45·9
26	10 28	29·874	56·7	47·6	28	10 29	29·975	54·1	44·8
32	11 29	22 905	55·2	45·0	33	11 31	29·902	53·5	44·6

These results will be better understood by reference to the following diagram, in which they are laid down :—

1835 and 1836.—9 A. M.



Not only the character of these curves is undecided, but I found, upon examining separately the results obtained from the observations of 1835 and 1836, that although the fluctuations were greater in each of these years, as might be expected, than in the mean of both, yet that they were very dissimilar. From this it may, I think, be concluded, that the menstrual inequality, if it does exist, is not the same for different months of the year. But the preceding investigation, in which the observations of all the calendar months are combined, could not serve to detect this inequality, if it be different at different seasons of the year.

According to the theory of gravitation, if α denotes the moon's right ascension, δ the moon's declination, and P the moon's parallax, l geographical latitude, and μ sidereal time, the atmospheric pressure will be represented by an expression of the form

$$A + B\,P^3\left(1-\frac{3}{2}\cos^2 l\right)\quad(1-3\sin^2\delta)\,\cdot$$

$$+\,C\,P^3\left\{\cos^2 l\cos^2\delta\cos(2\mu-2\alpha)+\sin 2\delta\sin 2l\cos(\mu-\alpha)\right\}$$

A, B, C, being constants. The portion of which the argument is $\mu-\alpha$ (menstrual inequality) varies with the declination, and is probably, therefore, different at different months of the year. As it vanishes at the equator it is probable that the menstrual inequality of the barometer between the tropics is not more distinct than in our latitudes, although the barometer is less subject there to irregular fluctuations.

The following table has been prepared by Mr. Russell from observations made in June at the Royal Society during ten years, the observations as before being those of 9 A.M.

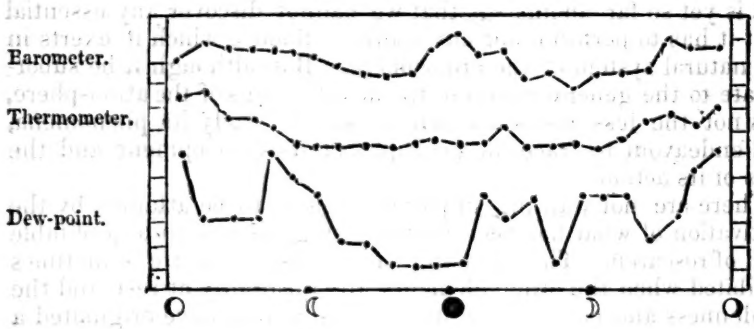
Number of Observations.	☾'s Transit, A.M.	☾'s declin.	☾'s H. P.	Height of Bar.	Attached Thermometer.	Dew-Point.	Number of Observations.	☾'s Transit, P.M.	☾'s declination.	☾'s H.P.	Height of Bar.	Attached Thermometer.	Dew-Point.
	○ h. m.	°	′	inch.				● h. m.	°	′	inch.		
12	0 30	S.21.7	58.3	30.022	69.7	57	16	0 30	N.21.8	56.4	30.106	67.6	52
13	1 30	21 6	58.5	30.091	69.9	54	12	1 30	21.2	56.7	30 037	69.4	55
15	2 30	18.9	57.6	30.078	67.3	54	14	2 30	19.8	57.1	30.036	67.3	54
13	3 30	16.9	57.5	30.078	69.1	54	14	3 30	15.1	56.4	29.901	68.5	55
14	4 30	13.0	57.1	30.057	69 2	57	13	4 30	12.8	56.3	29.932	66.6	52
15	5 30	7.0	56.7	30.007	69.7	56	17	5 30	9.0	56.4	29.880	66.3	55
15	☾ 6 30	S. 0.2	56.4	30.009	69.3	55	14	☽ 6 30	N. 1.7	56.2	29.941	65.9	55
16	7 30	W. 4.3	56.4	29.986	68.4	53	16	7 30	S. 4.2	56.9	29.939	66.6	55
14	8 30	10.1	56.4	29 932	68.3	53	15	8 30	10.3	57.5	29.976	67.2	53
16	9 30	14.5	56.3	29.921	65.9	52	12	9 30	14.8	57.9	30.119	68.2	54
12	10 30	18.5	56.5	29.926	67.3	52	15	10 30	17.5	57.3	30.048	68.4	56
13	11 30	20.2	56.8	30.057	67.2	52	12	11 30	20.3	58.0	30.068	70.5	57

By limiting the table to embrace only observations of a given month, the number of years required to furnish a given number of observations is increased; but, on the other hand, the fluctuations

of the thermometer and dew-point, extending over the period considered, are greatly diminished.

These results will be better understood by reference to the following diagram, in which they are laid down.

June. 9 A.M.



The character of the curves is as undecided as before.

Whether it may be desirable to extend this laborious investigation through the other months of the year, and also to inquire into the effect of changes in the moon's distance from the earth, must depend in great measure upon the importance that may justly be attached to the detection of very minute inequalities, or even to negative results, showing that no such inequalities exist; for while I am by no means sanguine that *any lunar* inequality would be clearly established, I think the results here exhibited show that it must be very minute and inadequate to afford a secure basis for predictions of the weather. I think that the determination of any well-defined lunar inequality in the atmospheric pressure, however small, would be of great interest, although it would be of no service in prognostication of the weather; for "nothing can be so utterly groundless as the disposition to refer the ordinary changes of the weather to the influence of the moon."

The observations of the barometer which have been employed have not been reduced to the freezing point, because the fluctuations only were considered, and because the correction for the expansion of mercury is only about ·001 for a degree of Fahrenheit (See 'Daniel's Meteorology,' p. 372). The fluctuations of the attached thermometer must of course be *similar* to those of a thermometer placed in the external air, although the latter would show a lower average temperature.

J. W. Lubbock.

II.—ON THE ELECTRICITY OF THE ATMOSPHERE.

In the earlier numbers of the 'Companion to the Almanac' we have given some short sketches of the meteorological phenomena arising from the changes of pressure, temperature, and humidity. These are governed, more or less directly, by the position and

course of the sun, and form part of the arrangement to bring about to all places on the surface of the globe the differences of climate and the vicissitudes of seasons. In the present paper, which will be occupied with an account of what is known regarding the electricity of the atmosphere, we have to consider the operations of an element which seems to be universally present in all aërial changes, but is yet so far anomalous that we cannot discover any essential part it has to perform, nor any useful influence which it exerts in the natural system of the atmosphere. But, although it be subordinate to the general causes of the modifications of the atmosphere, it is not the less necessary that we should study its phenomena, and endeavour to trace the principles of its development and the laws of its action.

There are not wanting important objects to be attained by the cultivation of what has been hastily disregarded as an unprofitable field of research. The amazing spectacles which are sometimes exhibited when the other elements are apparently at rest, and the suddenness and partiality of its fatal visitations, have originated a growth of popular superstition and prejudices which can be eradicated only by an exposition of their real causes. When Franklin applied his discoveries to practical purposes, it was thought that the efficacy of the conducting-rod was limited to the attracting to itself, and conveying away harmlessly, the discharges of electricity, which, under the form of lightning, it was impossible to prevent taking place. This limitation was occasioned by the attention having been confined entirely to the electrical conditions of the *discharge*. But of late years a more extensive range of application has been entered upon, with rational prospects of success, in the attempt to withdraw from hail-clouds the electricity which, by its instantaneous motions, precipitates the more violent showers, so destructive, in some countries, to the vineyards and other rural property. Now, the possibility of accomplishing this object was conceived, not in consequence of any new elementary discoveries, but by the repeated observation of the connexion between the hail and electricity; and, perhaps, might never have occurred without a combination of meteorological experience and theoretic knowledge. In inquiries of a more abstract kind, an accession of interest has been gained by the circumstance of the recent determination that the polar lights are, during their transient existence, under the control of terrestrial magnetism. This fact supplies the best foundation which we have yet got for comprehending these mysterious meteors among the diversity of forms which the electricity of the atmosphere assumes when active; and it is, at the same time, a link between these fleeting, occasional, and uncertain phenomena, and the more constant laws of the natural system.

That our acquaintance with this branch of meteorology is so little advanced, is to be attributed partly to the circumscribed action and only casual occurrence of the phenomena, which keep them without the reach of regular observation, and have made them to be looked upon as of less importance than the other changes in the state and qualities of the air. It may be remarked,

however, that more progress might have been made if the investigations into the operations of the aërial electricity had not been planned in the expectation of meeting with indications as precise in the different stages, and in the whole scope, as are afforded by the apparatus in the laboratory, where everything is arranged to procure the most definite results. We can hope to find only much more obscure indications when the whole action under consideration is carried on in a body which, by its own mobility, confuses the distribution, and, by its variableness in the power of conducting and insulating, interrupts the discharge, and when the observer has cognizance of but a part of an ill-defined sphere of action in which he is himself included. On comparing the opinions entertained in the present day with those formed by Franklin nearly eighty years ago, we shall be surprised by the smallness of the amount of demonstrative truth which has been added to the science since his time, and also by the clearness and sagacity of his views as compared with the extravagant and unscientific speculations of Beccaria, Saussure, Volta, and others, of the highest reputation as experimental electricians.

In a recent work of high reputation the discoveries of Franklin have been considered from a wrong point of view, and his merit depreciated because the resemblance of the electric spark to lightning had been hinted by former writers, and because he himself was not the first who had an opportunity of verifying his theory by raising a conductor. It is true that the discovery of the spark from excited bodies, such as amber, suggested the analogy, but the inquiry was carried no further than to remark the similarity of the light and crackling noise. There was little merit in pointing out what was obvious to the senses, and this single remark cannot be called an anticipation of the theory of Franklin. The supposition of their identity was looked upon merely as a guess, just as likely to be right as any other, and was far from excluding former opinions from philosophy. Franklin traced many other circumstances in which lightning and electricity agreed, thereby converting a guess into a very probable hypothesis; and, also, by his researches into the action of pointed conductors, invented the only method of putting the question to the proof. Until he had demonstrated the practicability of modifying the discharge, so as to secure the experimenter from injury, it would have been as absurd to tempt the lightning as to look into the mouth of a cannon in the act of being fired off; and, besides revealing the nature of lightning and inventing the safety-rod, he followed up his investigations by ascertaining the existence of electricity in other states of the air than thunder-storms; and, by the simplicity and rationality of his speculations into the sources and operations of this element, so mysterious and awful before, he inspired a confidence in intellectual power, attended with the happiest consequences in the progress of science.

In treating of the phenomena of the electricity of the atmosphere, we must premise some remarks on the sources from which it is derived. All the numerous causes of excitation, which are constantly in action on the surface of the earth, may be said to be

sources of more or less of the electricity of the atmosphere. But, as it has been ascertained that one kind predominates greatly, and is subject to rapid and extensive changes in quantity, we must look for some origin to which both of these circumstances may be ascribed. The intimate connexion which subsists between the formation of clouds and the development of electricity, naturally leads to the supposition of the electricity being dependent upon the vaporous portion of the atmosphere, which is itself liable to similar variations. The earlier electricians, observing the facility with which water could be raised in an invisible form by the attraction of excited bodies, and, reasoning from the analogy of caloric, thought that vapour necessarily acquired a peculiar electric state in rising from a solid or liquid. This opinion was generally admitted, in consequence of the results of experiments which seemed to establish it as a physical law that, in the conversion of a solid or liquid body into elastic fluid, the latter assumes the positive electricity, leaving the remaining body in the opposite state. But, from this mode of regarding the change of positive electricity as being essential to the constitution of the elastic fluid, some consequences follow which cannot be reconciled with facts. When the air is found to be electrified negatively, which is sometimes the case, the positive change of the vapour must have been previously neutralised; and no vapour, in an elastic state, could exist, until the negative change had been dissipated. Clouds being in a state of constant change by evaporation from their upper and lower surfaces, the vapour thus quitting it of course carries off with it again as much electricity as was extricated by it when condensed; wherefore there could not be accumulated in a cloud a greater charge than what was developed by the quantity of water forming the cloud at any one instant of time, and this is inadequate to the effects observed. The theory has been recently investigated, with remarkable skill, by Pouillet, who has demonstrated that the conversion of pure water into vapour, at any temperature, is not attended with any disturbance of the electric equilibrium, but that vapour, rising from solutions however weak, gives signs of electricity, varying in kind, according to the nature of the substance dissolved. From alkaline solutions the vapour rises with signs of − electrity; from saline or acid solutions the vapour carries up a charge of + electricity, and leaves the solution in a state of − electricity; and the rule was verified particularly with regard to solutions of sea salt. It cannot be doubted, therefore, that evaporation from the surface of the sea forms a copious source of atmospheric electricity; and, as no natural collection of water is absolutely pure, lakes and rivers, and the humid soil, must add to it. When we know that the + electricity of the vapour is an accidental condition, not essential to its constitution as such, it is easy to understand how this charge may be parted with to the rest of the atmosphere, or to a conductor, without the elasticity of the vapour being thereby affected, and how an accumulation may take place in a particular position of the atmosphere by the condensation of successive quantities of vapour.

Besides this important modification of the former theory, Pouillet has, by his ingenious and able researches, discovered an unsuspected source. When gaseous bodies unite with each other, or a gaseous body with a solid, one of the uniting bodies always gives out + electricity, and the other − electricity. In the combustion of carbon, hydrogen, oils, &c., the carbonic acid formed by the combination with oxygen is in a state of + electricity, and the unconsumed portion remaining is in the opposite state. As plants, during vegetation, exert a chemical action on the atmosphere, sometimes converting its oxygen into carbonic acid gas, and at others, decomposing the carbonic acid already existing in it, assimilating the carbon and disengaging the oxygen, it was conceived that electricity might be thus developed; and, from the very extensive operation of vegetation, the quantity might be sufficient to influence the atmosphere. The results of experiments confirm this anticipation. When seeds were sown in the earth there were signs of electricity as soon as the germs appeared at the surface, and the electricity became more evident as vegetation advanced. So considerable was the evolution that it was calculated that a powerful battery might be charged by the vegetation from an area of one hundred square yards. Every green tree and every tuft of verdure is, therefore, continually supplying the atmosphere with electricity; and, in hot and humid climates as that of Brazil, the quantity derived from this source must be extraordinary, if we reflect on the vigour with which the growth of plants is carried on. According to the assertion of a respectable traveller, rain in the evening will, by sunrise, have given a greenish tinge to the earth; if the rain continue, there will be sprouts of grass an inch long on the second day; and, on the third day, the grass will be strong enough for the pasturing of cattle.

The great sources of atmospherical electricity are, therefore, evaporation chiefly, and vegetation; the others to be noticed are comparatively insignificant, and, perhaps, do not coincide in contributing electricity of the same kind.

The exhalations from the flowers of plants differ in chemical constitution from those of the green parts, and their formation in the corolla must be attended with electromotive action. In all probability the electricity is of the negative or resinous kind, and will thus neutralise a small quantity of the + electricity rising at the same time. In the processes of animal life there are numerous secretions and chemical changes in which electricity is necessarily extricated; and there are even organs, the principal object of which seems to be the development of electricity, or, at least, their functions are dependent on the agency of that fluid. The quantity of carbonic acid gas emitted from the lungs is so great that the + electricity, with which, from analogy, we may suppose it to be charged, might be perceptible even in the diffuse air. But it is mingled with vapour which, considering the composition of the fluid generating it, is very likely to be charged with negative electricity. And, if these opposite charges should not neutralise each other, the excess may be abstracted by the moist passages through

which the breath finds its way to the external air. The signs of free electricity are more decided on the skins of animals, which may be derived from the perspiration or excitation by muscular action, and other causes, in the interior of the body.

The dryness of the skin will determine the intensity of the charge, which is sometimes of that degree that sparks may be obtained, as in the familiar instance of the back of the cat. The same fact has been observed in the human species, as is recorded of men while changing their shirts and stockings, and of females, who have drawn sparks from their hair by combing it. In the polar regions, where the air is intensely dry in the winter, so much electricity accumulates in the human body, or on the skin, that the pith-balls of an electrometer diverge on approaching the hand to the instrument; and, by chafing the hands, the charge is so much increased that they emit the same smell which is felt in the neighbourhood of electrical machines when they are worked briskly. It is most frequently the + electricity which is manifest in these circumstances, especially in the fur of the cat, which has so strong a tendency to this kind of electricity that even glass is thrown into the negative state when excited by it.

The human body, in a natural state of health, not exhausted by fatigue nor depressed by cold, has a perceptible + electricity; consequently, if any part of this charge be owing to evaporation, the vapour must have carried off with it the − electricity, and communicated it to the surrounding air. The atmosphere, of course, more readily receives the − electricity of the exhalation, which mixes its substance with it, than the + electricity of the skin, though more intense, which can only communicate from a surface, imperfectly conducting by its proper qualities, or rendered so by natural or artificial clothing. This view agrees with the experiments of Mr. Reid, who discovered that the vitiated air of apartments which have been occupied acquires a weak, though perceptible − electricity.

Such being the probable relation of the animal kingdom, and its amount being so trifling, it would be idle to attribute to this any of the atmospherical electricity. But the subject altogether stands in need of investigation of a more rigorous and scientific kind than it has yet received.

There is another habitude of water, besides evaporation, to which we may advert, rather to prevent useless speculation than from its own importance. About one-twelfth of the surface of the globe is covered with ice or snow, and the congelation may be attended with spontaneous electricity, as that has been termed which is excited by simple change of form without chemical decomposition. But whether it be + or −, and in whatever quantity it may be developed, it will be readily carried off by the remaining moisture without affecting the air. Vapour which rises from snow or ice disturbs a polarised arrangement of particles, and may thus be less inert in its electrical relations than when it rises from pure water in a fluid state. Still the effect of this must be very slight, since the quantity of vapour thus generated is much inferior to what is

condensed in the superincumbent atmosphere; and the influence of either, or of both united, cannot be detected by the ordinary instruments, as has been ascertained in different voyages to the polar regions.

In addition to the preceding real or suspected sources to which we must undoubtedly refer the usual electricity of the atmosphere, we have to notice others less general and constant, but necessary to be inquired into before attempting the explanation of some remarkable phenomena of limited distribution. We know enough of the nature of volcanoes and earthquakes to have no hesitation in attributing them to some species of combustion, deep-seated within the earth, by which there is, at the same time, an excitation of electricity correspondent to its energy and extent. When volcanoes are in action, this electricity, accompanying the vapours, smoke, and other emissions, is visible in the lightnings which traverse them, and in this form returns to the earth. The continuance of the exciting cause is indicated by earthquakes when the volcanic eruptions have ceased; and, if the shocks succeed each other rapidly, the electricity which makes its way to the surface sensibly increases the charge in the air. There will, of course, be great variations in the intensity at different times; it may sometimes diffuse itself in the earth through a wider area than that in which the shocks are felt, and it will find unequal facilities in leaving the superficial strata to enter the atmosphere, and may therefore accumulate at particular places.

Some writers have suggested that electricity may arise from the mechanical action of drops of rain falling through the air, and by the friction of currents of air upon each other, assigning to the former, particularly, the − electricity of showers.

Looking upon these as random conjectures, scarcely warranted by the principles of the science, we shall merely remark that, even admitting these causes to have place, the mass of the atmosphere could not be affected by them, the equilibrium being instantly restored in the former case by the ready conduction of the moisture; in the latter, by the substance of the currents being intimately mingled. The effects of wind upon the surface of the earth may be more permanent, and will vary according to certain circumstances. If the surface be covered with water, humid soil, or vegetation, the evaporation and consequent electricity will be increased in proportion to the velocity of the wind; and this electricity will predominate so much, that the weaker excitation by the mechanical force may not be at all perceptible. But when the ground, as in deserts, is so parched that the moisture is entirely exhaled, the air above it partakes of the drought, and both bodies, by their non-conducting qualities, retain the electricity developed either by the air moving on the surface or ascending from among the dry and heated particles of sand. The heated air, rising into the upper regions, carries with it the charge which it has acquired; but the electricity of the earth may accumulate to a considerable intensity, and originate peculiar phenomena in its dissipation.

To this last cause, we shall merely add that, independently of the action of the air, we may also suspect the influence of thermo-electricity upon the sand, and of friction among the particles when they are not entirely homogeneous.

Having thus pointed out the various sources, we may remark that, though each of them must be had regard to in particular cases, yet that the electricity which is constantly present in the atmosphere can be derived only from the process of evaporation, than which there is no other sufficiently copious and prevalent, and corresponding in its fluctuations. Even the electricity of vegetation is subordinate to that, as assimilation in plants is vigorous according to the rapidity of evaporation; and the electricity, on being communicated to the atmosphere, leaves the oxygen, or the carbonic acid, for the vapour nascent at the same time, as the better conductor. The electrical effects of the other causes which have been mentioned may be compared, in their amount, with the influence of animal heat and artificial fires—perceptible enough in a small compass, but not interfering with the general distribution of temperature.

Assuming it, therefore, to be a general principle that the electricity of the atmosphere follows the course of the aqueous vapour, we shall proceed to consider its operation in a state of diffusion, and then to give an account of the phenomena resulting from its accumulation and discharge. The gaseous portion of the atmosphere being a non-conductor, the electricity which is received at the surface of the earth could not be communicated to the entire mass, but would be retained until discharged again into the earth. Its diffusion is effected by the conducting power of the vapour, by the ascending currents of air carrying it along with them into the higher regions, and by the diminishing density of the air, as it ascends, offering less resistance to the expansion of the electricity. The conducting power of the vapour is determined, not by the relative humidity, but by the absolute quantity existing in a given volume of air. The range of temperature of air, nearly saturated, is, in round numbers, about 80°, or from about 80° Fahrenheit to zero (omitting lower temperatures, at which the actual density of vapour is not so well known), and the quantity, at the higher temperature, is twenty times greater than at the lower; or, with respect to the air, it forms from one-fiftieth to one-thousandth part of its weight. Small as these quantities are, they are found by experience to impart a considerable conducting power to air. The rarefaction of the air in the upper strata, to which the electricity is carried by the currents ascending from the heated earth, is still more efficient in diffusing it. It is of little consequence whether the resistance which air offers to electricity be referred to its elasticity or its density, as we have to consider only the difference caused by change of pressure. In either case the barometer may be taken as a measure; and, perhaps, without any great error, we may assume the resistance to be proportional to the squares of the heights of

the mercurial column. According to this progression, the resistance which, at the surface of the earth, is called unity, will be reduced, at the height of 1 mile, to $\frac{2}{3}$.

2 miles „ $\frac{2}{9}$.

5 „ $\frac{2}{15}$.

10 „ $\frac{1}{38}$.

The resistance is thus considerably diminished, even at the moderate heights in which the heavier clouds are formed, and at the height of 10 or more miles it becomes insignificant, so that the electricity may be carried up by the ordinary ascent of the heated air to a point from which it will easily traverse the remaining height, or be diffused to other places which have received less of it from below. This negative action, or non-resistance of rarefied air is not to be confounded with the positive power of conduction possessed by other bodies. When the motion of the electricity is determined by the absence of compression it expands merely by the mutual repulsion of its own particles, and this force is weakened in proportion to the space through which it acts. If the electricity were under no other influence than the non-resistance of the air, it would of course pass through the atmosphere, and be dissipated in the void beyond it. On the other hand, a substance which has the property of conducting, not only transmits electricity more readily than the most perfect vacuum, by conveying it in a stream unaltered in its force, but by the action of the opposite electricity which may be induced through it, again collects and concentrates upon itself whatever electricity has been disengaged and is at liberty to move. From the most indefinite state of diffusion, therefore, the electricity might be recovered by a conductor; and as the neutrality of the terrestrial electricity shows that there is no dissipation of that which rises into the atmosphere, it is to be inferred that the highest strata are not without an admixture of conducting matter. The most attenuated vapour will suffice for this purpose, and it is quite possible that the temperature of these regions is not so low that aqueous vapour is totally deprived of elasticity. There are, then, no grounds for supposing, with Franklin, that there is an electric region beyond our atmosphere, currents of which, becoming visible, originate the Polar Lights. Neither can it be admitted, as has been done repeatedly, that there is an accumulation of electricity within the limits of the atmosphere itself. It is true that a change of temperature modifies the conducting power, an increase of temperature being favourable to it; but the utmost allowance that can be made for the the coldness of the upper regions is as nothing in comparison with the effects of rarefaction. The most warrantable conclusion is, that the electrical condition of the rarer strata of the atmosphere offers no remarkable peculiarity, but follows the fluctuations of those resting on the earth.

Every part of the atmosphere being thus accessible to the electricity, that fluid leaves the surface of the earth, and tends to diffuse itself throughout the general mass. Its vertical distribution is never equable, being disturbed by the formation of clouds

in which it is detained, and by the mingling of different strata by the winds, which, bringing successive portions of the air into contact with the earth, the electricity is again absorbed. As might be expected from the nature of the exciting causes, the quantity is extremely variable, according to the climate, the season, and the time of day. In hot climates, not deficient in humidity, it is more abundant than where the air is cold and dry. Humboldt, who had observed the state of the atmospherical electricity both in Europe and in Equinoctial America, ascertained that its intensity is much greater in the latter place. On the other hand, in the Polar regions it is so weak that the usual methods tried by Scoresby and by the Arctic voyagers failed to detect it. Change of season at the same place, from spring and summer to winter, is attended with a similar variation in the electricity as difference of climate. The diurnal oscillation, or the succession of changes during the 24 hours, was the first general principle determined in this branch of meteorology after Franklin had discovered that electricity might be found in the atmosphere without the presence of thunder-clouds. It is first perceptible soon after sunrise, and continues to increase until the hottest time of the day; it then decreases until sunset, when a slight rise occurs, after which it again decreases, and from midnight until sunrise is imperceptible. The rise at sunset must be owing to the formation of dew, by which the electricity attached to the vapour is contracted into less space, and its intensity proportionably increased. The oscillation evidently follows the course of the vapour, but it must be understood that its regular outline can be traced only in calm and serene weather, being disturbed by whatever affects the temperature and vapour. By the influence of condensing vapour there is an inversion of the distribution which ensue in a homogeneous atmosphere. The electricity which has been concentrated in the planes of aqueous precipitation gradually communicates itself to the surrounding air, its intensity becoming weaker as it recedes from the plane. The change is therefore stronger as we ascend above the earth. In connexion with this part of the subject we may mention the periodicity of thunder-storms. When the temperature begins to decline, clouds which have formed become more dense in consequence of receiving additional vapour without a corresponding supply of heat. They may again evaporate, if the neighbouring air be not nearly saturated; but often they are precipitated in showers, after which the weather again clears. The falling of the drops opens a communication by which the electricity accumulated in the cloud is restored to the earth by conduction. When the intensity of the electricity is great, however, it may overcome the resistance of the air, and, by discharging itself, hasten the commencement of the shower, or even determine the precipitation of a cloud which might otherwise have evaporated. As the temperature arrives at its maximum at the same time of the day, it is not surprising that the transient storm should occur at the same hour of the day during the continuance of the same kind of weather. This has been observed to happen, even in our variable climate, on three or four successive days.

Signor Configliachi witnessed in 1814, in Italy, a recurrence of thunder-storms during fourteen days, at the same hour, over the same spot, and lasting the same time. In certain varieties of tropical climate, particular seasons are singularly characterised by this periodicity.

Several distinguished naturalists have made researches into the state of the electricity in different states of the weather, and have obtained results which agree as well as could be expected from the complicated and difficult nature of the inquiry. We shall quote the table drawn up by Mr. Crosse, his series of observation being the most extensive—premising a general remark, that there is nothing in the results obtained inconsistent with the opinion of electrical fluctuations being caused by prior changes in the state of the vapour. The order of arrangement is according to the comparative intensity of the electricity.

1. Regular thunder-clouds.
2. Driving fog, with small rain.
3. Fall of snow, or brisk hail-storm.
4. A smart shower, in a hot day.
5. A smart shower, in a cold day.
6. Hot weather, after some wet days.
7. Wet weather, after some dry days.
8. Clear frosty weather.
9. Clear warm weather.
10. Sky obscured by clouds.
11. Mackerel, or mottled sky.
12. Sultry weather, with light hazy clouds.
13. Cold damp night.
14. Cold dry N.E. winds, affecting the feeling to a degree not corresponding with the thermometer.

The weakness of the electricity which is diffused through the atmosphere makes it incredible that it can have any of the effects which popular opinion ascribes to it under the designation of "thunder in the air." It is said to blight vegetation, to taint butchers' meat, to turn milk sour. We may with more reason ascribe these effects to the high temperature and humidity than to the electricity, which is more intense in a snow-storm or a hail-shower (as may be seen in the preceding table), than in the kind of weather in which they are produced. With respect to its supposed influence on the human health, the same causes, combined with diminished pressure, are sufficient to explain the sickness, low spirits, nervousness, and feeling of general discomfort, arising from the contrary actions of stimulation from heat, checked perspiration, and more languid circulation.

The meteorological phenomena caused by simple communicated electricity are somewhat interesting, and are quite harmless, but often give rise to groundless terror among the ignorant or superstitious. They are of two kinds—the accumulation of electricity upon the extremities of bodies which are insulated conductors, and the communication of electricity to showers to such a degree that the drops become luminous. The former kind, which is the more common, was known to the ancients as well as to the moderns. It depends upon the proximity of a cloud highly charged, or upon an approaching change of

weather, in which the increase of the humidity is the first visible sign. Its appearance is that of a pale-coloured flame quivering upon the tops of spears and other military weapons, helmets, the manes and tails of horses, and generally upon all bodies which are not good conductors, but have sharp points upon which the electricity concentrates, without finding a passage to the earth. During storms at sea the electricity often assumes the appearance of a ball of fire upon the mast-head or at the ends of the yards, and sometimes runs along the moist surfaces of the spars and rigging: it is then known by the name of St. Elmo's Fire, or Corpo-Santo. Pliny says that he could trace the ramparts of a fort, by night, by the gleam from the weapons of the sentinels; but what he affirms of the vocal sounds emitted by the meteors, which settle upon the yards and masts of ships, has not been witnessed by any modern naturalist. Bianchini mentions a remarkable instance of the electricity which may precede a storm before any threatening appearances are seen. On one of the bastions of the castle of Duino, on the shores of the Adriatic, there had existed from time immemorial a pointed iron rod, placed vertically. In the summer, when an approaching storm was apprehended, the sentinel in the bastion presented a halbert to the iron, and when he perceived it to emit sparks or display a small gerb of fire, he rung a bell to give notice to the country-people in the fields, and the fishermen at sea, to seek shelter from the approaching storm. Luminous showers are of more rare occurrence than the foregoing appearance, but some of the instances are quite well authenticated. In the month of January, 1822, Professor Lampadius, at Freyberg, obtained the state of the electricity during the change of weather brought on by a shift of wind from S.W. and W. to N.E. There had been a small rain at intervals, but the shower changed into sleet and ended in a thick fall of snow. The electricity was so strong that one of the gold leaves of Bennet's electrometer was torn off, and there was the peculiar smell attending intense charges of electricity. At the same time there was a thunder-storm at Leipsic, and the Professor was informed by a gentleman who was travelling in the neighbourhood of Freyberg, during the snow, that there was a strong phosphorescence at the extremeties of the branches of all the trees along the road. The light was very distinct, and of a bluish-white colour; it continued when he touched the tree, but ceased for the time when the branches were made to touch the ground by bending them down. Some miners who were upon the road when the storm began, said that the sleet appeared luminous as it fell. A similar phenomenon took place on the east coast of the United States in January, 1817. There were thunder-storms with hail and snow, but not so much lightning as might have been expected in the circumstances. A luminous appearance was witnessed by those out of doors. Their hats, gloves, and ears, and the manes and tails of their horses, the bushes along the road-side, and the trunks of trees, were all surrounded by a lively vacillating flame, in different shapes, which at the same time emitted a slight noise

like the simmering of water over a fire. When drops of rain impinge on a solid body, not very porous, a reflecting surface is formed at the instant of contact, which throws back a flash of light to the eye of the observer. We are inclined to refer to this the luminous appearance which is said to have been noticed during heavy showers when the drops reached the ground.

We have now to consider the atmospherical electricity in a state of local accumulation, the operation of which is more complicated and more energetic than when it acts by simple communication. In the beginning of the treatise it has been shown how a cloud may acquire a charge of electricity greater than what is due to the quantity of condensed vapour at any one instant of time. If the resistance and non-conduction of the air were adequate to retain the charge, this would represent the whole of the electricity brought into the space occupied by the cloud by the successive condensation and re-evaporation of the aqueous particles. The electrical fluid gradually diffuses in opposition to these two forces, which are not capable of retaining a charge of very great intensity. But if the supply of the electricity be maintained while the diffusion is going on, the exterior of the sphere of electrical action may be pushed to a great distance from its centre, or the cloud; so that the intensity of the charge in the cloud is ultimately determined by the rapidity of the condensation of the vapour and the distance of the cloud from the earth, or conductors. So little is known of the positive effects of the different circumstances which influence the results, that it is impossible to conjecture what the greatest intensity of electricity in a cloud may be, but it is generally admitted that it must be far inferior to what may be acquired by the Leyden jar. The destructive powers of electrical discharges are, however, to be estimated not by the intensity of the charge within the cloud, but by the quantity; for the greater part of the charge of an extensive cloud may be concentrated into a flash of lightning of small dimensions. When electricity has been developed in a cloud, it endeavours to distribute itself in a stratum or shell upon the surface, leaving the interior of the cloud in a neutral state. The regularity of the distribution is prevented by the condensation of vapour within the cloud, the change of position of the drops by gravitation, the alteration in the form and density of the cloud by the motion of the air, and by the imperfect conduction. The distribution of the electricity of a cloud has therefore a very faint resemblance to that on an experimental conducting body; but if a stratum be formed at all, the thickness varies in different parts of it, according to the shape of the cloud, being greatest in the direction of the greatest diameter. The force of the electricity is proportional to the square of the thickness of the stratum, and, clouds being most frequently of a flattened form, there is a tendency to diffusion or discharge rather from the edge or circumference than from the central part. The repulsion among the particles of electrified air excites currents in the neighbourhood of the cloud, which flow from it horizontally and upwards, and towards it, from below.

By the accession of warmer air, the condensation of vapour is increased, and thus the causes of first formation of clouds are assisted by the consequence of their own action.

When a cloud or other body has acquired a charge of electricity, the matter surrounding it is induced into a state of electricity of the opposite kind, even although the charged body be perfectly insulated. This induction operates not only upon the portion of the atmosphere surrounding the cloud, but also on the earth, by which a sufficient quantity of electricity is prepared for combination with the positive primary charge. The non-conduction of the air delays the confluence of the two electricities, but when this obstacle is overcome, the union is instantaneous and violent. The discharge is repeated at intervals until the whole accumulation is neutralised, which the unfavourable distribution within seldom permits to be done by one effort. The path of the electricity is not a straight line between the two discharging points; but it is never capricious, being previously probed, as it were, by the subtile fluid which penetrates all neighbouring matter, and ascertains the track in which there is least resistance. It is thus sinuous, zigzag, or branching on different occasions. When the electricity has passed, the air, which has been forced asunder, again rushes into the partial vacuum, and gives rise to thunder, or the report which follows the discharge. The rolling of the sound is caused partly by the echoes, partly by the report from different points in the track reaching the ear in succession. It is rather the volume than the intensity of the sound which makes it so awful. The loudest peal of thunder can scarcely be heard at the distance of ten miles, and is therefore of less intensity than the report of a cannon.

When the air is favourably disposed for the conduction of the electricity, the discharges may be very frequent, but weak, so that no report follows, and the flash is invisible by day. This is what is termed heat-lightning, or, sometimes, sheet-lightning, though erroneously—the name referring to the recurrence of the lightning in warm, humid nights. There can be no doubt that the same kind of electrical discharges often happens during the day, also in similar weather; and to it must be attributed the rapid alternations of the two electricities, with intervals of nullity, which are detected by the electrometer only. The presence of — electricity at any time in the atmosphere is, in our opinion, the effect of induction by the action of the positive charge of condensing vapour. When electrified clouds are separated by wide spaces, whatever the state of the electricity in the intervening space may be, the approach of the cloud is ushered in by a decided — electricity, which is succeeded by + electricity, when the cloud is overhead, and — electricity again makes its appearance when the cloud is passing. If the clouds be near to each other, or if the whole sky be covered with a uniform rain-cloud, the indications are less distinctly regular, the change being sometimes a weak diffusion of the natural — electricity of the clouds, at others the — electricity induced by the cloud, and these succeed each other at different intervals. If these were clouds charged with — electricity, there can be no reason why fogs and mists, which are merely clouds in contact with the earth,

should not be sometimes charged with that kind of electricity. The experience of all observers has determined that + electricity only is to be found in them. Clouds of great exten may overpower the electricity of the same kind in smaller neighbouring clouds, and induce the opposite kind upon them; but if lightning pass between them, it is more probable that it is owing to the electricity of the large cloud passing through it to the earth. Lightning does sometimes seem to dart along the under surface of the cloud, as if the flash extended through the whole length of the cloud, and this may be mistaken for a discharge from one part of the heavens to the other.

Ascending thunder, or phenomenon which receives that name, has been observed on a few occasions, and is perhaps a discharge of electricity which may have accumulated in the earth independently of the influence of the atmosphere. The ancient Tuscans are said to have made a distinction of ascending and descending thunder. It may be remarked that the modern instances have occurred in the volcanic countries of Italy or the South of France. It has the appearance of a bright flame rising out of the earth, to the height of a few feet, and disappearing with a loud noise. Besides the ordinary flash of lightning, there is a form of it which it is very difficult to explain according to the principles of electrical science. Thunder-clouds have been seen to emit balls of fire, which explode when they alight upon bodies which have, perhaps, attracted them. They differ from lightning, so far as can be learnt from the descriptions (which are in all cases very incomplete), in being a longer time in effecting their passage through the air, so that the direction of their motion is easily traced: they are not accompanied by thunder in their passage, but a loud noise follows their explosion, and their explosion sometimes does not take place on immediate contact with the earth, or the body on which they have fallen. The most remarkable instance is that which struck the ship Montague in 1749. A ball of fire, as large as a mill-stone, was seen rolling three or four miles with the wind along the sea. It struck the maintop, rent the mainmast, and knocked down five men. Another, which happened during a storm near Monmouth, had the appearance of a glowing mass of fire, about the size of a cricket-ball; it entered a house by an open back-door, passed through the kitchen, thence along a passage, and went out by the front-door, without injury to any one. As these meteors are luminous throughout their whole motion, they cannot be referred to the same principle as St. Elmo's fire, which appears only when concentrated upon the attracting point. Neither are they of the same nature as the discharge of lightning, the energy of which is exerted throughout the whole track by which it reaches the earth.

When electricity has been discharged by an explosion it is to be understood, that having overcome the resistance of the air, it has also found somewhere a point of concentration favourable to its reception. In other circumstances there may be an accumulation, inducing the opposite kind into neighbouring bodies, but too weak to discharge itself through the intermediate air by a single effort. The combination of the electricities will, in such cases, be

effected, not by an explosion, but a continued stream between the excited bodies, and if the stream have sufficient momentum, it may have a sensible action on ponderable matter.

To this principle we refer a class of remarkable phenomena not usually ranked together—whirlwinds, pillars of sand, and waterspouts—the appearance of which being very well known from frequent description, we shall at once proceed to consider their nature. In the explanations generally given it is assumed that there are currents of air blowing in different directions, the oblique meeting of which causes an eddy or vortex, having a vacuum in its interior. Against this hypothesis it may be objected that, in the greater number of instances recorded, the air has been either calm or with a wind moderate and steady without any cross currents. If these meteors had a mechanical origin of this kind they ought to abound most where variable winds and storms prevail, as on sea-coasts, near head-lands, and among hills. On the contrary, they are most rare in such cases, rather affecting climates and seasons of hot still atmosphere, in desert plains or tropical seas. Besides, in order to form a vortex it is necessary that a coherent body be present to deflect the current into the tangential motion producing the whirl. A vortex cannot be formed in the free atmosphere whatever be the respective velocities or angle of meeting of currents, and, according to all experience, a shift of wind is preceded by a calm, lasting until one of the currents has obtained predominance. That waterspouts and whirlwinds are independent of motion in the air is made evident by their having often a rapid progression although the air around them be still, and by their having been seen even to advance against a wind then blowing, and when several waterspouts have been in sight at once, some have been stationary, others running about without any common direction.

In assigning this phenomena to the agency of electricity, there are no conditions assumed the existence of which can be disproved; and it cannot be denied that the cause is adequate to the effect attributed to it. We may distinguish two kinds of them, according as the electricity has accumulated in the earth, and discharges itself into the air, or, as the electricity is emitted from a charged cloud, exercising a powerful induction upon the surface of the earth beneath, but without exploding. In the former case, which is peculiar to land, the resulting action constitutes the whirlwind or the pillar of sand, the different appearance of which is owing to the nature of the soil from which they rise. Whirlwinds are of most frequent occurrence in those countries not free from earthquakes, and dry hot seasons, during a limited time of the year, such as the wide valley of the Mississippi. Compared with the pillars of sand they are more terrible in their destructive energies, but they are more casual and are generally single. Pillars of sand are confined to the deserts of Africa and Hindostan; they are individually less dangerous, but they are not to be despised if it be true that each of them may deposit a quantity of suffocating dust, forming a hillock of greater height than a man, and that countless numbers may be stalking across the arid plain with inevitable speed.

The electricity, which we believe to be the prime mover of these extraordinary spectacles, may possibly have different sources, and we are inclined to suspect a less superficial excitation of that in the whirlwind. But however the charge may be derived, when it has accumulated to such intensity that the electrical inertia of the air is unable to repress it, it will rush upwards in a stream, communicating an ascending motion to the air, and bearing along with it whatever light mobile particles may be within its influence.

If there were in the superincumbent atmosphere a sufficient mass to supply by induction the requisite quantity of the opposite electricity, then the accumulation might have been discharged in the ordinary manner by explosion. In the absence of this the electricity, taking the direction in which it meets with least resistance, tends to dissipate itself in a stream through the air so long as it can force a passage. The stream expands in its progress by its own elasticity, so that its diameter is greater as it recedes from the earth, often describing very exactly an inverted cone. While the stream continues the opposite kind of electricity is induced into the air along its path, and flows downwards towards the point of emission or apex of the cone, where the primary charge is most concentrated. Now, it has been proved by experiment, that every electric current contains within itself a revolving action, the consequence of the attraction of the opposite electric surfaces. To this property of an electric we may, therefore, assign the origin of the spiral motion of the whirlwind, conceiving that it results from the longitudinal, or ascending motion of the stream, influenced by the circular or revolving motion of the two electricities round each other. The velocity of the spiral motion is too great to be followed by the eye, and its mechanical effects, exhibited in the lifting of loaded waggons, the levelling of stone-walls, the cutting through fences, trees, and huts, as if with an edged tool are ascribable to no other physical cause than electro-dynamic.

Waterspouts have the same principles of action, but in them the accumulation exists in a low heavy cloud, which has induced the opposite electricity into the earth beneath, without finding a prominent point to facilitate an explosion. The charge is gradually neutralised by combination with that rushing in a stream from below, and carrying with it dust from the plain, and vapour or rather a mist, from waters. The watery particles being again aggregated into drops, sometimes as large as cherries, descend in torrents, and a circulation is thus established while the accumulation exists.

The spouts or tubes, apparently let down from the cloud, are formed by the vapour or mist attracted by the electricity which has elongated itself into a protrusion by an effort to discharge itself.

III.—THE APPLICATION OF ARITHMETIC TO MEDICINE.

The first application of arithmetic to medicine, like the dawn of the art of healing itself, must be sought for in the earliest and

rudest ages. The most ancient *surgeons* (for the manual part of medicine was first cultivated) must have perceived that some operations always succeeded, others nearly always, some again, never, and others hardly ever. It would scarcely have been possible to witness these facts frequently, without making some attempt, however incorrect, to reduce them to figures, by saying, for example, that such an operation failed three times out of four, and another not once in a hundred times.

These rude approximations would be thought sufficient for many centuries; and though they gradually gave way to more accurate calculation, still anything like a profound investigation of the subject is of very recent date. One of the most assiduous cultivators of this new branch of arithmetic was Parent-Duchâtelet, the celebrated writer on hygiene. The words *often* and *sometimes*, says his biographer, were never found in his writings; he required figures, and those separately collected, and serving to check one another.*

The great living advocate of this application of arithmetic is M. Louis, one of the most eminent physicians in Paris; he distinguishes it by the name of the '*méthode numérique*,' and may really claim the merit of having elevated it to the rank of a science. This method, however, has met with opposition, and arguments for and against it are propounded and answered somewhat after the following fashion.

It is in vain, cry the opponents of the *méthode numérique*, that you attempt to apply the doctrine of chances to medicine, which does not belong to its domain. In the doctrine of chances the events which are the subject of analysis are either similar to each other, or differ by a ratio which admits of calculation.

In medicine, on the contrary, no two cases are alike, and what is worse, they are indefinitely and undefinably unlike. Take any large collection of medical facts; the Epidemics of Hippocrates, the Epistles of Morgagni, Hoffmann's Consultations, Stoerck's Ratio Medendi, &c.; how many cases will you find exactly similar? Probably no two. Sydenham, the great master of observation, the first in the very first class of physicians, teaches us, that no two epidemics are alike, and that when a new fever invaded London, he commonly lost several patients before he learned the right method of treating it. Indeed, every judicious physician confirms this important lesson. The pneumonia of to-day is not the pneumonia of yesterday, and when an epidemic influenza comes amongst us, in Caius it is little worse than a cold, while in Titius it develops an incurable consumption. Even healthy persons, or those ordinarily esteemed such, cannot be reduced to any given standard, for it rarely happens that a man has no weak part;† what shall we say then of the sick, with every variety of

* "Il écrivait ses observations, et il les comptait. Les mots *souvent, quelquefois*, n'entraient jamais dans ses notes: il lui fallait des chiffres, et des chiffres exacts, recueillis un à un, et pouvant se servir mutuellement de contrôle. Rien n'égalait la sévérité de sa méthode. Rechercher la vérité, était pour lui une seconde religion."—*Notice historique sur A. J. B. Parent-Duchâtelet. Par Leuret. p.* xiii.

† Raro quisquam non aliquam partem corporis imbecillam habet.—*Celsus de Med.*, lib. i. cap. 3.

disease, producing countless modifications in each particle of the human frame? The young practitioner, when he first passes from his books and lectures to the bedside of the patient is surprised and perplexed, precisely because he does what the arithmeticians recommend, and endeavours to apply the rules drawn from generalised disease to an individual case. The more he sees of practice the more he learns to consider each case as a new and separate problem; and the most eminent physicians are those who have been most celebrated for the exquisite tact with which they recognised the subtle differences of cases passed over by the common herd of practitioners.

Hence we may conclude, that in the study of symptoms and in the treatment of disease, we must never lose sight of individuality. A disease is not a simple and uniform entity, but a series of ever-varying phenomena; and as every exclusive theory is deceptive in the study and analysis of symptoms, so every fixed method is absurd in the practice of physic. Numerical calculations, therefore, which, even in the pure mathematics, sometimes lead to error, from the uncertainty of the facts on which they are founded, are open to so many sources of fallacy in medicine that they are pernicious rather than useful.

The defenders of the numerical method reply, that even in the subjects ordinarily treated of by the doctrine of chances, the supposed similarity of events does not exist, nor does their difference admit of estimation. Thus, in throwing a die, it is supposed that its six faces are perfectly and exactly equal, a supposition which can never be quite correct, and is often grossly wrong; yet the person who knew that, in throwing two dice, deuce-ace was a far more likely cast than double sixes, would have an immense advantage over one ignorant of this fact; for the great superiority of the probability would almost always counterbalance the inequality of the dice. Now, as it is very possible that a beginner, unskilled in the doctrine of chances, might suppose each of these throws to be equally probable, so it has often happened, not merely to beginners, but to celebrated physicians, to be deceived in medical facts from trusting to vague impressions, instead of counting events. Thus, according to Corvisart, dilatation with thinning of the walls of the heart is common; but the reader who consults his book will find only one case. The same statement is made by Bertin and Bouilland, yet in forty-five cases of disease of the heart, observed by Louis at La Charité during eight years, no instance of it was seen. In the same way the general statements of Laennec, as to ulcerations of the trachea being common in phthisis, but uncommon in those who are not suffering from tubercles, are found, on counting cases, to be exactly the reverse of the fact. The more gross such blunders are, the more clearly do they show the uselessness of mere approximative results.*

If, indeed, every case of disease differed essentially from all other ones, the practice of physic would be almost useless; but, in reality, the study of ages has succeeded in dividing diseases into

* Louis.—*Medical Gazette*, vol. 20, p. 490.

groups, of which many are successfully treated by general methods, in spite of the minute differences to be discovered in every case. Thus the remarkable powers of cinchona bark in ague, of colchicum in gout, and of sulphur in itch, are shown in cases differing very considerably from each other. It is true, that even in these diseases, instances will occur where the remedy would not only be useless but injurious; as colchicum, for example, could not be administered in gout if the alimentary canal were much inflamed. But these exceptions, while they show the danger of intrusting the treatment of diseases to mere empirics, and the necessity of grouping diseases with the utmost discrimination, are far from proving any fallacy in the numerical method; for it would be a strange error to imagine that the disciples of Louis, like the methodical physicians of old, divided diseases into a few classes, with some erroneously comprehensive treatment for each. Far from confining themselves to general rules they have zealously studied the exceptions, and, far from limiting their attention to figures, they have applied all their powers of reflection to the details of facts.

Such are the arguments used by the opponents and the partisans of M. Louis's method; nor is it quite so easy, as it might be wished, to decide between them. For, though we agree with the arithmetical physicians that all improvements in the art of healing necessarily depend on counting the results of various kinds of treatment, still it must be confessed that there is a vast difference between the gradual elimination of medical truth by the balanced results of ages, and the hasty theorems which M. Louis deduces from the practice of a few years in a single hospital. The experience of many hospitals and other countries will no doubt often show, eventually, that the practice of ages and the *unfigured* persuasion of the older physicians were more correct than tables collected from a small number of cases. Still this is no argument against the system, but merely against the abuse of it; we will therefore content ourselves with warning our younger readers against the strange mistakes that may be made in these arithmetic calculations by omitting some of the elements of the problem. Hence, before detailing some of the conclusions which have been drawn, by the aid of arithmetic, in various hygienic and medical topics, we will just mention a few of the *sources of error* to which they are exposed.

It is a very common error for medical writers to extol the efficacy of a method of treatment, as shown upon a number of very mild cases. Hence, unfortunately, we continually read in dispensatories, and other compendia, that, in the hands of Dr. A. of B., the flowers of C. proved very efficacious in controlling the disease D.; but that the statements of Dr. A. have not been confirmed by other practitioners. The natural inference is that Dr. A. picked his cases. M. Bouillaud will have it that, in pneumonia (inflammation of the lungs), by following his system of bleeding, *coup sur coup*, the disease is almost always arrested on the third day; indeed, he is so sanguine about the matter, that he calculates that, while others lose one patient in four, he loses but one in

eight. As M. Bouillaud practises in an hospital, his calculation is open to the criticism of all the world; and we shall therefore see, in a year or two, whether everybody practises bleeding, *coup sur coup*, or whether M. Bouillaud's statements are "not confirmed by other practitioners."

An excellent and eminent physician, Sir Gilbert Blane, committed an error of the same genus but of a different species. He wished to compare the results obtained by modern treatment, in acute diseases, with those which take place when the patient is left to nature, or nearly so. As specimens of the latter method, he takes forty-two cases of acute diseases, detailed by Hippocrates in two sections of one of his works, and finding that twenty-five of them terminated fatally, he exults in the improvement that has taken place in the practice of physic. This improvement would be great indeed if Hippocrates were narrating the ordinary run of cases; but it is far more probable that, writing for the instruction of mankind rather than for his own immediate reputation, he selected the cases he thought the fittest for this purpose—in other words, the most severe ones. In like manner, Dr. Abercrombie has written two works, one on diseases of the brain, the other on those of the stomach, where about nine-tenths of the cases terminate in death; yet, far from this being the average proportion in the practice of any physician, the converse proportion, or nine recoveries to one death, would be much nearer the truth.

Let us take an instance of a different kind. Dr. Bisset Hawkins, in his useful work on Medical Statistics, observes that "so great was the care taken of prisoners in this country, that, in the year 1813, the mortality amongst them was only 1 in 55—not one-half of what occurs to the whole population of Rome—although these persons were labouring under most of the privations which embitter or enfeeble existence."—p. 160.

And, similarly, "Even on the barren rock of Gibraltar our garrison has been trained to the enjoyment of a more secure existence than that which is enjoyed by some cities on the Continent. It appears, from a recent report, that its mortality was only 1 in 48 (exclusive of the years in which epidemic fever prevailed)."—p. 215.

In both these passages a most important element in the calculation has been omitted—it has not been taken into consideration that both the prisoners and the garrison consisted almost entirely of men in the prime of life; and, in the case of the British troops especially, of picked men, among whom we should expect the mortality to be very small, and, of course, infinitely below that of Rome or any other populous city.

Mortality of Hospitals.—It is very difficult to show that the mortality of a *general* hospital depends on its arrangement or the skill of its medical officers; at any rate, so many circumstances are to be taken into the account, that the calculation becomes extremely perplexing. For instance, if the hospital is small in proportion to the number of patients desirous of admission, a selection of the worst cases will be made, and the deaths will be

more numerous. The admission of a large number of *accidents* will also increase the deaths; while the rigid exclusion of consumptive cases (which is the rule at some hospitals) will tend to diminish them. Some have gone so far as to start the paradox that the deaths will become more numerous as the discipline of the hospital improves, on account of the severe cases being then selected.* It seems that, at the Hôtel-Dieu at Paris, in the 9th year of the French Republic, the mortality was 1 in 7; and, on its interior economy being much improved, it rose to 1 in 6, and then to 1 in 4. Dr. Hawkins thinks that this was owing to the exclusion from the Hôtel-Dieu of all pregnant women and insane persons, who had been previously received there in great numbers, and whose mortality is much smaller than that of a common hospital.—(Med. Statistics, pp. 76, 77.)

This change will, of course, account for a great increase of mortality, but will not show why the hospital, in its improved state, should lose so many more patients than any hospital in other cities, from which the pregnant and insane are also excluded.

A mortality of 1 in 4 makes us suspect some prodigious mismanagement, in spite of the ingenious paradox above mentioned.

This difficult problem of the mortality of hospitals, and its reasons, is much simplified if we examine special instead of general hospitals: the results are certainly clearer, and probably more instructive. Thus, it would seem, from the tables appended to Dr. Merriman's work on Difficult Parturition, as well as Dr. Hawkins's statements, that the mortality among lying-in women is greater in hospitals than either in dispensary or in private practice. Fifty or sixty years ago the mortality among lying-in women at the Hôtel-Dieu was 1 in 15; in 1822, at the Maison d'Accouchemens, it was 1 in 30; or, to take a wider range, of 17,308 women, admitted from December 9, 1799, to May 31, 1809, 700 died, being 1 in 25. We must frankly confess that these three proportions of 1 in 15, 1 in 25, and 1 in 30, are all so extremely large as to afford almost irrefragable proofs of homicidal mismanagement.

At Vienna there were 211 deaths among 18,642 women, or 1 in 93; at Milan, 10 deaths among 269 women, or 1 in 27;† at Dublin, 119 deaths among 10,199 women, or 1 in 86.

In the practice of a large dispensary, on the other hand, there were only 7 deaths among 1,897 women, or 1 in 270; and, in the private practice of three physicians, there were—

(*a*) 14 deaths among 2,947 women, or 1 in 210

* The truth of this apparent paradox has been verified, during the last few years, at St. Bartholomew's Hospital. In former times, *medical* cases were only admitted on one day in the week, upon the recommendation of a governor, but now urgent cases are admitted every day in the week without any recommendation. The consequence has been, that the mortality of the hospital is increased in direct proportion to its increased utility to the labouring classes of the metropolis.

† Two hundred and sixty-nine are so small a number that no inference can be drawn from them; especially as it seems probable that they were partly picked cases of deformed women, &c.—three of them, indeed, died from the Cæsarean operation.

(*b*) 30 deaths among 2,982 women, or 1 in 100
(*c*) 107 deaths among 10,190 women, or 1 in 100

The mortality in Prussia contrasts the hospital and ordinary practice still more strongly, on account of the average being taken from a whole kingdom.

From 1796 to 1806 one lying-in woman out of 32 died in the *Charité* at Berlin; in the next 10 years, from 1807 to 1817, one in 45; but in the whole kingdom of Prussia, in 1817, one only died out of 112.

Some years ago, however, a report of obstetric practice in Lewes was published by Mr. Mantell, from which it appeared that only two deaths had occurred in 2,410 cases.*

Whether we suppose the great mortality in the hospitals to arise from the contagiousness of puerperal fever (the most fatal malady to which lying-in women are subject), or simply from the depressing effects of a contaminated atmosphere, it is equally obvious that lying-in hospitals require some searching reform. It might probably be requisite to transplant them from the heart of great cities into the suburbs, to surround each by a vacant space, and to take care that each hospital was sufficiently small; otherwise they would seem to do anything rather than save lives.

Healthiness of Trades.—Here is a subject in which counting is much wanted. A little there has been, no doubt, but so little, that the results are scarcely to be trusted. There are some instances, indeed, where the evidence is so strong, and the results agree so well with our previous notions, that scepticism would be unreasonable. Thus, it is plain, the employment of a house-painter cannot be a healthy one; and we do not want figures to demonstrate that the occupation of a tailor, working in a crowded room, and in a constrained attitude, must wear down the constitution faster than that of a carpenter. Other cases are not so clear, or later evidence conflicts with former. Thus, according to Cadet de Gassicourt, printers seldom live beyond 45 years of age; and Mr. Thackrah says they rarely pass 50; while M. Chevallier, who a couple of years ago investigated the diseases and longevity of printers at Paris, came to a very different conclusion. He found that in 23 printing-offices, in Paris, the age of the men was respectively as follows:—

No.	Years.	No.	Years.	
1	from 18 to 60	13	from 40 to 50	
2	„ 15 „ 50	14	„ 30 „ 60	
3	„ 12 „ 75	15	„ 10 „ 70	
4	„ 18 „ 55	16	„ 25 „ 50	
5	„ 18 „ 50	17	„ 20 „ 60	(2)
6	„ 18 „ 50	18	„ 20 „ 60	
7	„ 18 „ 60	19	„ 17 „ 50	
8	„ 20 „ 50	20	„ 20 „ 45	
9	„ 20 „ 50	21	„ 18 „ 65	
10	„ 18 „ 40	22	„ 15 „ 70	(3)
11	„ 20 „ 55	23	„ 17 „ 60	
12	„ 20 „ 40			

* 'Medical Gazette,' vol. 2, p. 782.

Moreover, "M. Chevallier was informed by a workman, that 18 years ago there was one printing-house in which 40 men were employed, 25 of whom were between 50 and 70 years; so that it was nick-named the 'Greybeard Printing-house.' The names are given of 17 printers, now working in Paris, 14 of whom are 70 years old, one 68, one 62, and one 80. A man, named Dubois, worked for Didot, jun., until 86 years old, when he died; and another worked until 83 or 84 years old. The tables of mortality of the hospitals in 1831, enumerate 25 printers who died between 55 and 78 years. In the hospital of the old, four died at the ages of 69, 78, 64, and 75."—('Brit. and For. Med. Rev.,' vol. i. p. 284-5.)

Again, the manufacture of tobacco has been considered by many authors of celebrity as highly injurious to the health of those employed in it: from Ramazzini to Mérat, writers on the diseases of artisans are unanimous as to the pale and yellow complexions, the asthmas, headaches, and dysenteries of the manufacturers of tobacco and snuff. Yet, if we may trust D'Arcet and Parent-Duchâtelet, who inquired minutely into the health and longevity of the workmen in all the great tobacco-manufactories of France (amounting to 4,518 persons), there is nothing unhealthy in the trade.—('Parent-Duchâtelet, Hygiène Publique,' vol. ii. p. 559—606.) There is no doubt that the old writers exaggerated the unhealthiness of this trade, but if it should really turn out that the fumes of an acrid and narcotic poison of no mean powers are perfectly innoxious, it will certainly be one of the most paradoxical facts in the whole domain of science.

Causes and Diagnosis of Disease.—The causes of disease are so complicated, and commonly admit of so much dispute, that figures have as yet done but little to detect them. The utmost that can be expected from them is to confirm the conclusions drawn from common sense and the experience of ages. Thus, as gout is a disease of the rich, the luxurious, and the wine-drinking, we naturally expect it to be very rare among the mass of the population of large towns, and private soldiers; and we accordingly find in the records of general as well as military hospitals, that it is there one of the rarest diseases. Youth and early manhood are among the predisposing causes of phthisis, and we still find that the great majority of cases occur between the ages of 18 and 35, in accordance with the experience of the Father of Physic. It is well known that one of the most frequent causes of ulcers of the leg is long standing; and we find in Parent-Duchâtelet's elaborate essay on this subject, that of 766 women suffering from this disease, 204 were washerwomen.—(Parent-Duchâtelet, Hygiène Publique, vol. ii. p. 661 and 3.) In the diagnosis or distinguishing of one disease from another, considerable aid is often derived from the comparative frequency or rarity of a given malady. For example, let us suppose an empiric to advertise that his miraculous Patagonian ointment infallibly cures cancer, and, among others, cures a young lady of seventeen. On turning to the registers of facts, we find that cancer at seventeen is so rare, that, even supposing the

man of unguent to be honest, it is at least 1000 to 1 that he was mistaken, and that the supposed cancer was a harmless induration. But there is another and more curious application of figures to the discrimination of diseases. The quantum of effect produced by a given remedy will often show the quantum of morbid action to be counterbalanced. Thus, Dr. Marshall Hall supposes that the mean quantity of blood which may be taken away from a healthy man, before he begins to faint, is 15 ounces;* whereas much more may be abstracted, in most cases of inflammation, before the same effect is produced; in congestion of the brain, from 40 to 50 ounces; in the inflammation of the serous membranes (*e. g.* of the pleura, the membrane which lines the chest), from 30 to 40 ounces; in inflammation of the substance of the lungs, about 30; and in inflammation of the skin and mucous membrane (*e. g.* of the membrane lining the windpipe, and its ramifications), 16 ounces. On the other hand, in some diseases there is diminished tolerance of bleeding—that is to say, the patient cannot bear the abstraction of 15 ounces before he faints. Thus, both in common and eruptive fevers, the average quantity is from 12 to 14 ounces; and becomes less and less, through a variety of diseases, down to cholera, which is marked by 6 ounces. We will take an example of this arithmetical practice of physic from the same author.

"A few days ago I was consulted by a medical friend in the case of his wife; he feared peritonitis; there had been previous attacks of the same kind; there was great pain and tenderness of the abdomen; the tongue was loaded; I prescribed blood-letting in the upright position; the patient, though young and stout, fainted on losing eight ounces of blood. From this moment there was no obscurity in the diagnosis, no hesitation in reference to the treatment, no interruption in the recovery."—(Introductory Lecture, p. 47.)

Had this been a case of peritonitis—that is to say, inflammation of the serous membrane lining the abdomen—then, according to the table just quoted, fainting ought not to have been produced by the abstraction of less than thirty ounces of blood. Now, eight ounces caused fainting; hence, it was not a case of peritonitis, but of intestinal irritation, easily and often mistaken for it.

Another instance of the *tolerance* of a remedy effected by disease, and, consequently, of the demonstration of the presence of grave disease by the largeness of the dose, is to be found in tartar emetic. This powerful medicine, which commonly produces vomiting in doses of two grains, has been given by Rasori in doses of twelve or twenty grains, in cases of inflammation of the lungs. Under ordinary circumstances, such doses are poisonous; but, in this disease, it is said that they are not only bearable but advantageous.

Opium, again, has been given in the most enormous doses to persons suffering under various spasmodic affections, such as tetanus and hydrophobia; and Currie relates an instance of a pa-

* The old, or wine-pint, contained 16 of these medical fluid-ounces; the new, or imperial pint, contains 20.

tient, labouring under the former of these diseases, swallowing six bottles of Madeira within twenty-four hours without intoxication.

Treatment of Diseases.—Much is to be hoped for, even in the present generation, from the publication of the results of practice on the large scale in the treatment of disease. We shall then learn whether fever is best treated by antimony, or calomel, or bleeding, or saline medicines; but, for want of such tabular results, an acute observer was reduced to say—"I have not had access to the returns of the French and Russian army, but I have been made acquainted with the general result, which speaks strongly in favour of those medical philosophers who assume that, on an average of years, mortality by fever is nearly the same, whatever the treatment adopted may be. For I have every reason to suppose that, among the French troops, where the *médecine expectante* was generally the order of the day, there occurred, upon the whole, no greater proportion of deaths than among the English, who met the fevers of the country with mercury and the lancet, in all the activity and all the orthodoxy of the schools; and among the Russians, whose practice was as rude and barbarous, and their apathy, as to the event, as impenetrable as that of their Turkish neighbours, the results were similar."—(Hennen's Medical Topography of the Mediterranean, p. 336.)

The battle between the lithotomists and the lithotritists is almost entirely carried on by figures; and were it not that there is a strong suspicion, and more than a suspicion, that the cases are picked, the stone-crushers would utterly drive their opponents off the field. Thus, M. Civiale tells us that among 5,715 cases in which lithotomy was employed by the first surgeons of Europe, there were 1,141 deaths, or 1 in 5;* while, among 257 cases of lithotrity, there were only 6 deaths, or 1 in 42. Nobody, however, believes that lithotrity is superior to lithotomy in anything like this ratio, as far as safety is concerned; but the new operation is not only less frightful to the imagination, but the patient, instead of remaining in his bed for probably a month, as was the case after lithotomy, may, in favourable cases, almost immediately resume his usual occupations without inconvenience. It is remarked that the practitioners of physic always prefer lithotrity in their own cases.

Such are a few of the applications of the art of counting to the art of healing: it would be easy to add many more, but our limits warn us to conclude.

* In an account of Dupuytren's Visit to Naples, in a French medical journal, it was stated that, at Paris, according to Civiale, the lithotomists lose 4cases out of 10; while, in the hospital at Naples, the mortality from this operation is only 1 in 7, and in private practice, in the skilful hands of Petrunti, Santoro, &c., it is only 1 in 20, or even 1 in 25. At Naples, it appears, the surgeons pick their seasons, and, unless circumstances are urgent, perform lithotomy only in spring and autumn.

IV.—NOTICES OF THE PROGRESS OF THE PROBLEM OF EVOLUTION.

In the article Involution and Evolution, in The Penny Cyclopædia (and in various other places mentioned in the course of this paper), will be found a method of obtaining the rational roots, and approximating to the irrational roots, of an equation of any order whatsoever. This process, being a generalization of the method by which the roots of numbers are extracted, has received the name* of *Evolution*, and the meaning of the term *Involution* has received a corresponding extension. We presume the readers of this article to be acquainted with the method, of which we shall here give no further explanation, than that any method which proceeds by finding figure after figure of the root required, making use of the error of the root already found to determine a new figure of the root, is evolution. Thus, the Newtonian method of approximation only differs from evolution in not being conducted by finding the figures of the root successively.

A little controversy has been going on for some years relative to the invention of this method, which, being apparently for the most part conducted without sufficient attention to the previous history of algebra, has been argued upon what appears to us altogether a false basis. If Vieta, Herigone, Harriot, Oughtred, Wallis, and various others, whose writings are not now before us, had never lived nor written, we might not have had this objection to make; but, as it is, we think it will sufficiently appear in the course of this article that it has become necessary to compel the appearance of these parties. The following points will be asserted:—

1. That a method of evolution, exhibited in the performance of division and the extraction of the square and cube roots, was communicated by the Hindoo to the Arab writers, and passed from the latter into Europe.

2. That an extension of this method to the solution of equations in general, laborious but certain, was made by Vieta, and became public before the publication of his collected works.

3. That this method was somewhat improved in form by Harriot, used by Oughtred, Wallis, and the generality at least of English writers, and continued to be a common method up to the time at which the Newtonian approximation appeared in Wallis's Algebra.

4. That the method was so laborious, that its derivation of the root, figure by figure, was not preferable to the use of the Newtonian method, for which it was accordingly abandoned.

5. That before the middle of the year 1819, Mr. W. G. Horner, of Bath, discovered a rule for performing the computations necessary in Vieta's extended method, by which that method was made preferable to the Newtonian method, which simplification was read to the Royal Society July 1, 1819, and published by them December 1, 1819.

* Mr. Peter Nicholson wrote a treatise on the method, under the name of 'Essay n Involution and Evolution.' London, Davis and Dixon, 1820.

6. That, though more than one individual may claim to have rediscovered the method of Vieta, or that method with modifications not materially decreasing its difficulty, and partly derived from the Newtonian approximation, Mr. Horner is the first and (as far as can be proved) the only inventor of all that renders the extension of Vieta, as now used, preferable to the approximation of Newton.

7. That with reference to its practicability, this method is properly called *Horner's method;* but, looked at altogether, it must be called the united method of Vieta, Newton, and Horner.

On the first point there is no dispute: the Hindoo treatise on arithmetic, called the Liliwati, establishes the knowledge which that nation had of the processes mentioned; and the passage of this knowledge into Europe by means of Mahometan works, professedly indebted to Hindoo writers, is matter of common history.

On the second point there can be no dispute that we know of, except, perhaps, with the reader of Hutton's history of algebra (in the second volume of his tracts), who must have found, and perhaps received, the assertion that Stevinus was the inventor of a general method of solving equations, from which this of Vieta differs little. Now, we have searched the writings of Stevinus* in vain for anything more of the sort in question than the simple extraction of roots. But we find that there was a method of solving equations (so called) which sometimes bore the name of Stevinus (in Ronayne's Algebra, for instance), and which is nothing but successive trial of different numbers. Now, Dr. Hutton says of Vieta's method, that "it is very laborious, and but little more than was before done by Stevinus, depending not a little upon trials." Here, then, we have the secret of his assertion: he knew a little of what some had dignified by the name of Stevinus's *method*, and did not take the trouble to follow Vieta through one of his examples. Seeing a trial at every step (as there is in division, &c.), he set the plan down at once as being that of Stevinus, which is *nothing but trial.* We dwell upon this, because we have no doubt that the carelessness of Dr. Hutton (of which this is not the only instance) is the proximate cause of the present article. His work is the history of algebra which was most accessible to the English reader; if he had faithfully looked into the method of Vieta, and represented it accordingly, the odds are great against a revivification of that method having been promulgated as a new discovery. We shall see more of this before we have done.

Wallis (in the preface of his Algebra, English edition) says of Vieta, "He introduced also his numeral Exegesis of affected equations, extracting the roots of these in numbers; which had before been applied to single equations, such as the extracting the roots of squares, cubes, &c., singly proposed: but had not been applied (or but rarely) to equations affected." The words, "or but rarely," do not indicate that Wallis knew of any predecessor, for he cites none throughout a voluminous history; but they probably

* The collected edition of his works by Albert Girard, two volumes of Hypomnemata, and the arithmetic of 1585.

imply that he considered the extension so natural, that it would be unsafe to say it had never been made. But he always calls the method after Vieta, and frequently after Vieta, Oughtred, and Harriot, putting Vieta first. And in cap. 52 he says expressly, that none, to his knowledge, used it before Vieta.

Leaving the testimony of historians, we take up the tract of Vieta, entitled 'De Numerosâ Potestatum purarum atque adfectarum ad Exegesin Resolutione:' if such a method existed prior to the publication of this tract, it is for those who make the assertion to produce it.

The year of publication of this Exegesis was 1600. Vieta printed his works at his own expense, and distributed them as gifts; which, with the complete collection of his writings, published by Schooten in 1646, has rendered the original editions scarce. It would not be easy for us to say whether this tract was ever matter of much publicity previously to its appearance in Schooten's edition, if it were not for the course of mathematics which Herigone, or Herigonius, published in and about 1634. In the second volume of this course appears the method of solving adfected equations, with a reference to Vieta's name.

We shall now take an example from Vieta, previously giving the same by the method now used. The equation to be resolved is—

$$x^5 - 5x^3 + 500x = 7905504.$$

0	−5	0	500	7905504(20+4
20	400	7900	158000	3170000
20	395	7900	158500	4735504
20	800	23900	636000	4735504
40	1195	31800	794500	0
20	1200	47900	389376	
60	2395	79700	1183876	
20	1600	17644		
80	3995	97344		
20	416			
100	4411			
4				
104				

In the following, taken from Vieta, explanations are omitted. The divisor used for obtaining the second figure of the root is not the same as in the modern form, but differs little from it when a few places have been obtained, as in Wallis's example at the end of this article.—

"In notis Q C − 5 C + 500 N æquatur 7,905,504, et fit 1 N unitatum quot?"

I.	5	
	500	
79	05504	
32		
	1000	
	40	
31	7000	
47	35504	
II.	60	
	30	
	5	
	500	
47	35504	
8	0	
	80	
	40	
	10	
8	8460	
		8460
		6305
		78295
		0
		80
		560
		2560
		1024
		2000
		64624
		240
		480
		320
		29120
		35504

Root obtained 24.

See next Col.

To explain the divisor of Vieta in modern language, we must say that that it is $\phi(a + 1) - \phi(a)$,* instead of $\phi' a$, ϕa being the unknown side of the equation, and a the part of the root already found.

We now come to our third point. The Clavis of Oughtred was first published in 1631, but no evolution is found in this edition, except the extraction of ordinary roots. Dr. Wallis says, "The method of Vieta is followed, and much improved, by Mr. Oughtred, in his Clavis (first published in the year 1631), and other treatises of his." This means that Wallis had before him a later edition of the Clavis than the first, and we shall presently dispute the alleged improvement. The 'Artis Analyticæ Praxis' of Harriot (posthumous) also appeared in 1631; and here we find a specific improvement, namely, the formation of only so much of the divisor as is necessary for the determination of the next figure. It is strange that Wallis, who seems in almost every other case to have a bias of exaggeration towards Harriot's works, should, in this, place Oughtred by his side. The following example is from page 156 of the Praxis of Harriot, and contains a root of three places, all the examples of Vieta (in adfected cases at least) containing only

* Or rather a unit less than this, both in Vieta and Oughtred.

two. It should be noticed that Harriot always deprives the equation of its second term, which was then an improvement, though it would not be one now.

Sit æquatio numersosè proposita

$a\,a\,a\,a - 1024\,a\,a + 6254\,a = 19633735875.$

Radix universalis successivè educenda.

		3 7 5
Homogeneum resolvendum $h\,h\,h\,h$		19633735875
	$g\,g\,g$	6254
	$-f\,f$	−1024
	$b\,b\,b$	27
	+	27006254
Divisor A		26903854
	$g\,g\,g\,b$	18762
Radix sing. prima $b = 3$,	$-f\,f\,b\,b$	−9216
	$b\,b\,b\,b$	81
	+	81018762
Ablatitium A b		80097162
Radix singularis		3
Homogeneum residuum resolvendum		11624019675
	$g\,g\,g$	6254
	$-f\,f$	−1024
	$-2\,f\,f\,b$	−61440
Radix sing. decupl. $b = 30$,	$4\,b\,b\,b$	108000
	$6\,b\,b$	5400
	$4\,b$	120
	+	113526254
	−	62464
Divisor B		112901614
	$g\,g\,g\,c$	43778
	$-f\,f\,c\,c$	−50176
	$-2\,f\,f\,b\,c$	−430080
Radix sing. secund. $c = 7$	$4\,b\,b\,b\,c$	756000
	$6\,b\,b\,c\,c$	264600
	$4\,b\,c\,c\,c$	41160
	$c\,c\,c\,c$	2401
	+	1064204778
	−	480256
Ablatitium B c		1059402218
Radix aucta		3 7
Homogenei residuum resolvendum		1029997495

$g\,g\,g$	6254
$-f\,f$	−1024
$-2\,f\,f\,b$	−757760
Radix aucta decupl. $b = 370$, $4\,b\,b\,b\,b$	202612000
$6\,b\,b$	821400
$4\,b$	1480
+	203441138
−	758784
Divisor B	202682354
$g\,g\,g\,c$	31270
$-f\,f\,c\,c$	−2560
$-2\,f\,f\,b\,c$	−3788800
Radix sing. tertia $c = 5$ $4\,b\,b\,b\,c$	1013060000
$6\,b\,b\,c\,c$	20535000
$4\,b\,c\,c\,c$	185000
$c\,c\,c\,c$	625
+	1033811895
−	3814400
Ablatitium B c	1029997495
Radix universalis completé educata	3 7 5
Homogenei reliquum finale	000000000

We see, then, that Harriot was the first English writer who used the extended method, which came in England to be sometimes called by his name. The second edition of Oughtred's Clavis was published by himself in 1647, in English, and was called 'The Key of the Mathematicks, new forged and filed; together with a Treatise of the resolution of all kinde of affected Æquations in numbers.' The method is that of Vieta, as distinguished from that of Harriot, even to the omission of the unit in the divisor, mentioned in a preceding note; but the names of Vieta and Harriot are entirely suppressed. The following is an example from Oughtred —

$$1\,q\,c - 15\,q\,q + 160\,c - 1250\,q + 6480\,l = 170304782.$$

1703	04782	(47
1	5	− B
1	250	− D q
1	60	C q
	6480	F $q\,q$
1024		A $q\,c$
102	40	C q A c
2	5920	F $q\,q$ A
+ 1128	9920	
384	0	− B A $q\,q$
20	000	− D c A q

− 404	000	
724	9920	*Ablatit.*
R 978	05582	
128	0	5 A $q\,q$
6	40	10 A c
	160	10 A q
	20	5 A
7	680	C q 3 A q
	1920	C q 3 A
	160	C q
	4680	F $q\,q$

+ 142	50040	
38	40	− B 4 A *c*
1	440	− B 6 A *q*
	240	− B 4 A
	15	− B
1	0000	− D *c* 2 A
	1250	− D *c*
− 40	87665	
+ 101	62375	Divisor.
896	0	5 A *q q* E
313	60	10 A *c* E *q*
54	880	10 A *q* E *c*
4	8020	5 A E *q q*
	16807	E *q c*
53	760	C *q* 3 A *q* E
9	4080	C *q* 3 A E *q*
	54880	C *q* E *c*
	45360	F *q q* E
+1333	62047	
268	80	− B 4 A *c* E
70	560	− B 6 A *q* E *q*
8	2320	− B 4 A E *c*
	36015	− B E *q q*
7	0000	− D *c* 2 A E
	61250	− D *c* E *q*
− 355	56465	
+ 978	05582	*Ablatit.*

In Wallis's Algebra, chapter 62, we find a 'numerose Exegesis,' as he calls it, in which appears, for the first time, the important improvement of the contraction of the divisors and remainders; by which means he has extracted the root of a biquadratic equation to 17 places. The work, as written down, occupies a little more than two of the small folio pages of the time, in double column, with Oughtred's marks of explanation; and, from various expressions used by Wallis, it appears that the method was commonly known and practised. Nor was it locked up in so large a work as Wallis's Algebra; for so late as 1702 an edition of Oughtred's Clavis (in English) was published by Halley, with a laudatory preface, and 'recommended by Mr. E. Halley, Fellow of the Royal Society,' conspicuous in the title-page. And this is the case in favour of our third point.

We now proceed to the fourth point. The method of approximation given by Newton was first published in Wallis's Algebra, cap. 94, and applied to the case of $y^3 - 2y = 5$, which is to this day the example commonly given of this method. Wallis himself does not give any particular approbation to it, but only states that it "is very different from that of Vieta, Oughtred, and Harriot, which is commonly received." After this period English writings begin to give Newton's method to the exclusion of that which preceded. The reason why the Newtonian approximation is less laborious than its predecessor, arises from the earlier method containing no provision for making the steps of one part of the process facilitate those which succeed. The manipulation of algebraical quantities was in a very rude state in the hands of Oughtred; and the reader will detect in the preceding example such a process as $a\,b + a\,c$, instead of $a(b+c)$. That the preceding method declined, and that Newton, and subsequently others, supplied its place by *new* processes, is very well known to every reader of mathematical history. But the old method was not so entirely forgotten that it could never come to the knowledge of a

modern reader: for example, in Barlow's Mathematical Tables (1814), page xxiii., the whole history of the problem is summed up (from Lagrange) in 12 lines, as clearly and correctly as it could possibly be done in that space; with the exception only that Pell is mentioned where Wallis should have been written, which probably arises from Wallis's improvement being introduced in that part of his history of algebra in which he treats of Pell's writings. No more is necessary on the fourth point.

We do not mention the method of Raphson, which is not properly evolution, though it throws the Newtonian approximation into a form somewhat resembling it. If this method were made to proceed by single figures of the root, it would much resemble the method of Mr. Atkinson, presently to be noticed; and this was actually proposed by one Richard Sault,* between 1690 and 1694.

We should incline to think that the "numerose Exegesis" did not make much way on the Continent, compared with the progress it made in this country, where mathematical writers have always been greatly attached to numerical applications. In the course of mathematics of Dechâles† (published in 1690) we find Vieta's form applied only to the most trivial examples.

The fifth point is matter of notoriety; and as Mr. Horner is the first who *published* even so much as a revival of the method as Wallis left it, he certainly has the claim of discovery for the additions, whether there be independent inventors or not.

There are two stages between Wallis and Horner, for the method of the former will allow of some reduction by the use of these processes, which are now familiar to every algebraist. But a person who revives an old method, merely changing its rude form into one of a more simple character, to which he has been led by the use of the same methods of simplification in other cases, has no claim to the title of a discoverer. Suppose, for instance, a person should revive a problem of Vieta, using the binomial theorem instead of the long process of multiplication, he would certainly not be held to have been the independent author of an improved method. In looking back, therefore, with the present state of the problem in our hands, to its former history, we must ask, what new thing is it, to the invention and application of which we owe the present state aforesaid?

We now come to the sixth‡ point. In or after the month of

* In a work called 'A New Treatise of Algebra, with a converging Series for all manner of adfected Equations.' It has no date, but it refers to Raphson (whose first edition was 1690), and an old possessor's autograph (in our copy) has the date 1694. But so evidently does this reduction of Raphson's method (so called) to the determination of figure after figure bring the process back to the old 'numerose Exegesis,' that the possessor above mentioned (or some other person of his time) has inserted the single word 'numerose' in the title-page, opposite to the author's announcement about converging series.

† But this work is behind its time in many respects. Its readers were introduced to Newton only by the information that Isaac *Nouton*, Professor of Mathematics at Cambridge, had edited the Geography of Varenius.

‡ The number of inventors, as well as that of persons supposing themselves to be inventors, may be larger than that which we have given. Sherburne mentions one Milbourne, who solved an equation of the fifth degree approximately, before he had

June, 1820, a tract was published by Mr. Theophilus Holdred, entitled, 'A new method of solving Equations,' &c., with a supplement. These two must be discussed as if they were two separate works; the first being the old method in a modern form, and with no more difference than the application of the usual modern forms and the use of Newton's divisor instead of Vieta's; the second being neither more nor less than the method which Mr. Horner had put in print more than six months before.

We take an example from the *work*; observing that Mr. Holdred was acquainted with Harriot's method, which he mentions in the preface.

EXAMPLE 6.

Let the equation $x^4 + 5x^3 + 7x^2 + 3x = 91672020000$ be proposed.

By comparing this with the general equation, we have $h = 5$, $i = 7$, and $k = 3$.

Make $r = 500$.

r^4	= 62500000000	$4r^3$	= 500000000
hr^3	= 625000000	$3hr^2$	= 3750000
ir^2	= 1750000	$2ir$	= 7000
kr	= 1500	k	= 3
A	= 63126751500	B	= 503757003

$${}_2B = B + 2Ca + 3Da^2 + 4a^3$$

$6r^2$	= 1500000	$4r$	= 2000
$3hr$	= 7500	h	= 5
i	= 7	D	= 2005
C	= 1507507		

$${}_2C = C + 3Da + 6a^2 \qquad {}_2D = D + 4a$$

N = 91672020000(500 = a
A = 63126751500

28545268500(40 = a

B = 503757003)
C = 1507507 : × 40 = 60300280 = C a
D = 2005, 3 D a = 240600 3208000 = D a^2
D a = 80200, 4 a = 160, 6 a^2 = 9600 64000 = a^3

a^2 = 1600 Divisor 567329283 : × 40 = 22693171320 subtrahend

5852097180(9 = b

${}_2B$ = 634237563
${}_2C$ = 1757707 : × 9 = 15819363 = ${}_2C\,b$
${}_2D$ = 2165 175365 = ${}_2D\,b^2$
${}_2D\,b$ = 19485 729 = b^3

a^2 = 81 Divisor 650233020 : × 9 = 5852097180 subtrahend

0

In the preceding method, the calculation of ${}_2B$, ${}_2C$, and ${}_2D$, which forms no small item of the whole, is omitted, and the results only are stated. If this were done and all the operation were

seen Harriot's work. (*See* Penny Cyclopædia, article HORROCKS.) And in our day we have seen a treatise on Algebra, of the most moderate claims in other respects, the author of which claims a general method of solving equations, which is no other than the Newtonian method in its most usual form.

stated in Harriot's way, it would be found to differ in nothing from the old method, except in the employment of the Newtonian divisor. Mr. Holdred knew of that method, since he mentions it, for the purpose of depreciation, in his preface: and his own method has the mark of Harriot's fingers strongly impressed upon it. The reader who looks back to the preceding examples will see the same redundancy of ciphers in both, distinguishing both from the examples of Vieta and Oughtred.

We now come to the Supplement, premising that, though we began this article under the impression that Mr. Holdred was an independent inventor of the old method, we are now convinced of the contrary. The Supplement is a curious production: Mr. Holdred, having been, as he states, for 40 years in possession of his method, was about to publish it, when a subscriber (not named) sent him an equation to solve. An accidental mistake led him, after some weeks of delay, to the method of his Supplement, which caused a corresponding delay in the publication. This lucky accident happened precisely in that six months of the 40 years during which Mr. Horner's improvement was in print. All this may have been; but it is needless to say that, when the claims of another person are in question, such evidence must be rejected, particularly as coming from a person who had already called Harriot's method his own; nor can we allow ourselves to infer from it that Mr. Holdred was an independent inventor of the method, or of any part of it, new or old.

The next claimant is Mr. Peter Nicholson, who, as far as we can see, has intended to treat his predecessors with all fairness, but who is evidently under a most singularly erroneous impression, namely, that he was the first publisher of Mr. Horner's simplification. Mr. Holdred communicated what he called his methods to Mr. Nicholson, who states that he suggested some improvements, which Mr. Holdred declined to publish, unless * he were allowed to pass them as his own. On the appearance of Mr. Horner's paper, Mr. Nicholson published his Essay on Involution and Evolution, which also appeared in 1820 (date of preface May 1). Mr. Nicholson says of Horner's paper, "I perceived, however, that the paper contained the substance of what I had previously† written and published, and that, in addition thereto, he had shown the means of performing the operation without using the figurate factors." (Preface, p. vii.) And again (page 24), "I cannot help observing the singular coincidence of the rule which I have given in my Combinatorial Essays for the decomposition of algebraic products with the non-figurate method of extracting the roots of equations." The *non-figurate* method means Mr. Horner's rule.

So far Mr. Nicholson's assertion is rather vague: we have searched the Combinatorial Essays without finding anything which more resembles Mr. Horner's process than would any other in which such a succession of processes occurs as $A = P + Q\alpha$,

* We do not know that this statement was ever answered.
† Where? Where? Where?

$B=R+Aa$, $C=S+Ba$, &c. And here we should be obliged to leave this claim, were it not for a more precise repetition of the statement which occurs in 'A practical System of Algebra, &c., by Peter Nicholson and J. Rowbotham,' London, 1837 (third edition). In a note to page 196 the following statement is made with reference to Mr. Horner's rule.

"The very same process was published in Mr. Nicholson's Increments, in the year 1817, and was derived from the doctrine of combinations. Examples may be seen in the introduction, pages xxxv. and xxxviii., and in the body of the work, pages 4 and 38. Page 126 contains an improvement upon the former, and is the same as that now used. The author did not then think of applying these rules to finding the roots of equations, though they were far superior to the methods discovered, three years afterwards, by Messrs. Holdred and Horner, in point of brevity, facility, and perspicuity."

The precision of this paragraph is good evidence of the fairness of its intention; but the last sentence would alone settle the question. Mr. Nicholson had the means in his hands, but did not *then* think of applying them. Did he do so *afterwards?* His own words, previously quoted, show that the "non-figurate method" was first revealed to him by Mr. Horner's paper. The whole of this part of the claim is unintelligible; and we pass to the more specific portion, which is nothing more than a total mistake.

Is it true that the "very same process" was thus published? We have examined the pages alluded to, and can find there an ingenious process for forming the co-efficients of $(x+a)(x+b)\ldots$; but not the rule in question. However, since it is asserted that "p, 126" contains an "improvement," "the same as that now used," we will cite here the process contained in it entire.

"In order to show the superiority of this method I shall again give another solution of example xiv., page 70.

"To find the sum of the series—

$$1^3 \cdot 2^3 + 3^3 \cdot 4^3 + 5^3 \cdot 6^3 + \ldots\ldots (2x-1)^3 \times (2x)^3.$$

Let $z = 2x - 1$; then will $z^3(z+1)^3 = (2x-1)^3 \times (2x)^3$

A	B		Method of Decomposition.			
2	0,0,1,1,1,1	− 2	$2 \cdot 2 = 4$	$4 \cdot 1 = 4$	$4 \cdot 1 = 4$	$4 \cdot 1 = 4$
4	0,1,1,1,1	− 4	$6 \cdot 3 = 18$	$22 \cdot 3 = 66$	$70 \cdot 3 = 210$	214 *aff.*
6	1,1,1,1	− 5	$11 \cdot 5 = 55$	$77 \cdot 5 = 385$	455 *neg.*	
8	1,1,1	− 7	$18 \cdot 7 = 126$	203 *aff.*		
10	1	− 9	27 *neg.*			

$$\therefore z^3(z+1)^3 = z^{6\frac{1}{2}} - 27z^{5\frac{1}{2}} + 203z^{4\frac{1}{2}} - 455z^{3\frac{1}{2}} + 214z^{2\frac{1}{2}} - 4z^{1\frac{1}{2}}$$"

The preceding then is a very good process for turning a product of the form $(x+a)(x+b)\ldots$. where a, b, &c., are not in arithmetical progression, into the sum of other products in which the substitutes for a, b, &c., *are* in arithmetical progression. But Mr. Horner's rule is for the purpose of finding the *development* of $(x+a+k)(x+b+k)\ldots$. by means of the *development* of

$(x+a)\,(x+b)\ldots$. The two rules* have different objects, and different modes of proceeding; different things done in different ways: how can two rules differ more?

We now come to the assertion that Mr. Nicholson's methods are superior in "brevity, facility, and perspicuity." It is to be remembered that an arithmetical operation is not to be judged by the space it occupies in a printed book; nor is it wanted to save paper, but time and risk of error. If then the writing down of two or three figures be avoided by a process which will involve a moment's thought, it may very easily happen that there is nothing gained by the omission.

The following instance is the most complicated, we believe, which occurs in the elementary treatise from which our citation is made:—

$$x^4 + 5x^3 - 3x^2 + 15x - 25 = 0$$

5		− 3	15+.....	−25	(1·2165
6	×1=.... 6	+ 3	×1= 3.....	+18×1=	
7	×1=.... 7	10	×1= 10	+18	
8	×1= ... 8	1800	28000+.....	− 70000	(·2
92	×2= ..184	1984	×2= 3968+.....	31968×2=	
94	×2= ..188	2172	×2= 4344	63936	
96	×2= ..192	236400	36312000+.....	− 60640000	(1
981	×1= ..981	237381	×1= 237381+.....	36549381×1=	
982	×1= ..982	238363	×1= 238363	36549381	
983	×1= 983	239346	36787744+.....	− 24090619	(6
9846	59076	2399	×6= 14396 +.....	3693170×6=	
9852	59112	2405	×6= 14432	22159020	
		2411	3707602	− 1931599	(5208

The process, by the method we recommend, is as follows:—

First Coefficient 1.

5	−3	+15	25 (1·216520810
6	6	3	18
7			
8	3	18	70000
90	7	10	63936
92			
94	10	28000	60640000
96	8	3968	36549381
980			
981	1800	31968	24090619
982	184	4344	22159008
983			
984	1984	36312000	1931611
	188	237381	1854405
	2172	36549381	77206
	192	238363	74200
	236400	36787744	3006
	981	14394	2968

* We have not explained the details of Mr. Nicholson's process; for it either is or is not the "very same" as that now used: and, in the first case, explanation would be useless, and in the second irrelevant.

237381	3693168	38
982	14430	37
238363	3707598	1
983	121	
239346	370881	
6	121	
2399	371002	
6		
2405		
6		
2411		

On comparing the preceding processes, we see that Mr. Nicholson has attained what he states, in a subsequent note, to have been his object, namely, the placing of corresponding processes in the same horizontal line, by sacrificing a much more important element of arithmetical accuracy. Numbers which are to be added together should always be written under one another; whereas, in Mr. Nicholson's form, this is very frequently not the case. We think that the brevity of his method can profit no one but a very expert arithmetician indeed; that its facility is considerably below that of the form given by Mr. Horner; and that, in point of perspicuity, it is hardly as good. But the only way of deciding such a question is by trial; and this the reader must do for himself. The introduction of the ciphers is a decided improvement.

The next claim is contained in a posthumous tract of the late Mr. Henry Atkinson of Newcastle, entitled, 'A new Method of extracting the Roots of Equations; read at the Literary and Philosophical Society of Newcastle-upon-Tyne, August 1, 1809.' Newcastle, 1831. Mr. Atkinson appears to have been wholly unacquainted with the writings of the older algebraists, and his method is that of Vieta, somewhat like the form in which Wallis left it; but with the use of the Newtonian divisor, and the use of Newton's approximation at the conclusion. There is but one wrong assumption pervading Mr. Atkinson's assertion of his claim,—namely, that the whole of the method used by Mr. Horner was supposed to be Mr. Horner's property. We suspect that Mr. Horner himself was under the same impression. He (Horner) says, "The whole process may be defined, *division by a variable divisor*. For an accurate illustration of this idea, as discoverable in the existing practice of arithmeticians, we cannot, however, refer to the mode of extracting any root except that of the square; and to this only in its most recently improved state."* Had the

* We do not quite see the meaning of this. The present method of extracting the square root is as old as European algebra; at least we find it, precisely as performed at present, in P. A. Cataldi's 'Trattato del modo brevissimo di trovare la radice quadra,' &c. Bologna, 1613.

In the fourth volume of Leybourn's Repository will be found a paper by Mr. Horner "on the popular methods of approximation," written a little while after his paper in the Philosophical Transactions. In this paper he notices Newton, Halley, Raphson, De Lagny; but no one of older date.

author known Oughtred's, &c., writings, he would here, most probably, have referred to them.

Acting upon this wrong notion, Mr. Atkinson claims as much of the whole method as would amount to adding the use of Newton's divisor to the ancient process. But he abandons all pretension to the "non-figurate method," which he terms a "capital improvement." It would not have taken an hour to show Mr. Atkinson, whose view seems to have been perfectly fair, that though, up to a certain point, he had all the merit, he had not the priority, which is necessary to a claim of discovery, except in the points presently noticed.

We now give an example from Mr. Atkinson's work, in which it will be seen that the steps which fill up nearly the whole of Oughtred's process are omitted; that is, the results only are stated.

$$2x^3 + 4x^2 - 10 = 60000.$$

$N = 60000$ (30·4722476 the value of x

$A\,a + B\,a^2 + C\,a^3 = 57300$

		2700·000
$A+2\,B\,a+3\,C\,a^2$	5630	2281·568
$\{B+3\,C\,(a+b)\}c$	73·6	
$C\,c^2$	·32	418·432000
	5703·92	405·385246
	73·6	13·046754000
·32 × 2	·64	11·609318096
	5778·16	1·437435904
$\{B+3\,C\,(a+b+c)\}d$	13·048	1·16101
$C\,d^2$	·0098	
	5791·2178	·27642
	13·048	·23220
	·0196	4422
	5804·2854	4064
$\{B+3\,C\,(a+b+c+d)\}e$	·37364	358
Ce^2	8	348
	5804·659048	10
	·37364	
	16	
	5805·032704	

Mr. Atkinson, besides applying Newton's divisor, was the first who suggested the idea of making one divisor help in the formation of the next; insomuch that, had Mr. Horner allowed time, this method must have superseded many others. Perhaps, all things considered, it would be fair to say that Mr. Atkinson's

method is Newton's approximation rather than Vieta's, digested so as to furnish figure by figure, until the number of decimals obtained can be doubled in the usual manner, for which the process furnishes the materials. He consequently made a real step on the road, which had not time to become known before it was rendered useless by the "capital improvement" of Mr. Horner.

Mr. Atkinson was induced to suppress his method for many years in consequence of an opinion given by Hutton, who, though he declared it to be "new and ingenious," preferred the rule of position. Now, whether Dr. Hutton, who, as we have seen, could not distinguish the methods of Stevinus and Vieta, saw the real point of novelty which Mr. Atkinson's plan presented, we cannot certainly tell; but, on either of two suppositions, such an opinion is surprising as coming from an algebraist and an historian of algebra. If he thought that the mere evolution was new, what are we to say to the annalist of Vieta, Oughtred, Harriot, and Wallis? but if he detected the new form of the Newtonian approximation, how could he contrast it with the rule of double position, the elements of which are much the same, and which is, in fact, much such a predecessor of Newton's approximation as Vieta's method itself?

We have thus, we submit, established the sixth point, and the seventh is the necessary consequence of the preceding six. To Vieta belongs the extension of the process of evolution; to Newton, the addition of the most convenient divisor; and to Horner, the simplification of the process of finding the divisors, which renders what we may call the digested Newtonian approximation preferable to the form in which it was proposed by Newton himself. Of various modifications of Mr. Horner's process which have been proposed we do not much approve, believing that the tendency to error which they introduce far more than counterbalances any advantage which they may have in other respects.

The only historian who has yet noticed this method is Professor Peacock, in his Report to the British Association upon the present state of Analysis, a work which we have found of almost daily use. But, as Professor Peacock had never seen the tract* of Mr. Holdred (as he states in a note), and as Mr. Atkinson's was probably not published when his paragraph on this subject was written, we do not feel it necessary to controvert some one or two sentences to which we might otherwise have taken some exceptions.

One thing must strike every reader who can follow the details of the preceding article—namely, that any person who announces a discovery should, before he commits himself, pay a little attention to the history of the science of which it purports to be an advancement. If any one of the competitors in this matter had published an account of the previous state of the problem, much unnecessary discussion would have been avoided. It is particularly to be regretted that Mr. Horner did not do this; since, in

* It was sold only by Messrs. Davis and Dickson, and by the author, and is very little known.

such a case, it is more than probable that his honours would not have been claimed by others. It is not to be wondered at that the bias of self-love, and the honourable desire of distinction, should lead to the assertion of claims which are really unfounded, in subjects of which the history * is so little written as that of the mathematical sciences. The quarter to which we look for some improvement in this respect is the British Association, the volumes of which have contained some valuable (because minute and precise) additions to the accounts of preceding discoveries. It is to be hoped that it will continue this part of its career; and that it will not, in the excitement of novel research, lose sight of what appeared, at its first formation, to be an object which was particularly set forth as one of its most prominent pursuits. If, by describing what has already been done, it should save persons possessing the talent of investigation (but ignorant of history) from fruitless labour and ultimate discouragement, and should show them the path in which their exertions may really prove useful, it would benefit the branches of knowledge which its members cultivate as much as if their own exertions had been gifted with double energy.

Perhaps no case that ever happened would more strongly illustrate this position than that of Mr. Atkinson, whose whole account of his labours carries with it every possible mark of truth and fairness, so far as his knowledge enabled him to tell what his claims might be. "It was," he says, "during the summer of 1801 that the first idea of the method occurred to me; and, so impatient was I to know the result to which it would lead, that I actually sat down by the side of the road, on which I was then walking, and, upon some waste paper that happened to be in my pocket, worked out the general formula, so far as to satisfy myself that it would answer. Being then but a young mathematician, in a remote part of the country, without connexions, and unaccustomed to write, the idea of publishing my discovery never entered my mind." Some years afterwards Mr. Atkinson presented his memoir to the Philosophical Society of Newcastle, but he does not appear, to the day of his death, to have met with one person † who could suggest a comparison of his method with that of Oughtred or Wallis, were it only to see if they differed or not.

Since the removal of the injurious and unprofitable tax ‡ on almanacs, two well-known publications, the Ladies' and Gentle-

* We speak particularly of our own country; but the whole of the scientific community has reason to wish for a complete history of mathematics, done in the manner of Professor Peacock's report.

† A friend, who knew Mr. Atkinson well, informs us that he may "state with certainty that, at the time he (Mr. Atkinson) wrote the paper, he knew nothing of the works of Harriot, Oughtred, and the other elder mathematicians, except what might be gathered from the memoirs of their lives in Hutton's Dictionary, or from the Encyclopædia Britannica. The chief mathematical works to which he had previously had access were those of Emerson and Simpson."

‡ It now needs no very sanguine mind to see that the great incubus of all, the tax on communication between persons who do not live in the same place, will be reduced to its fair proportions; and the time must come when the public, beginning to see the benefits of the removal of a restriction which is all but a stamp-duty on speech, will wonder at the stupid apathy with which it allowed itself to be muzzled from year to year.

man's Diaries, which have for more than a century been a medium of communication between the members of a large class of mathematical students, have commenced series of articles which cannot fail, if properly continued, to do much towards awakening the spirit of historical inquiry. In the Ladies' Diary for 1838 is a reprint of Horner's paper.

In diverging to the apparently irrelevant subject of the restrictions laid upon communication by heavy taxes, we do not consider that we have lapsed into politics. The case before us will distinctly show how much even the abstract and speculative sciences may have suffered from the enormous imposts which have prevented the communication of thought. The precision with which the facts of mathematical history can be recorded may enable us to point out, more specifically than the nature of other subjects will allow, how much of industry is thrown away, and of talent rendered unavailing, by unnatural obstacles placed in the way of information and discussion. Who can tell the extent to which this has gone, whether in matters of science and literature, or in the progress of the arts of life?

We subjoin a list of all the works, of which we know anything, in which any account of Horner's method occurs:—1. Mr. Horner's paper in the Phil. Trans. for 1819, reprinted, as stated before, in the Ladies' Diary for 1838. 2. Nicholson on Involution and Evolution, London, 1820. 3. Holdred on the Solution of Equations, London, 1820. 4. Young's Algebra, London, 1826. 5. Young's* Solution of Equations, London, 1835. 6. Nicholson's and Rowbotham's Algebra, London, 1837. 7. The Penny Cyclopædia, article INVOLUTION and EVOLUTION.†

Example of the complete method proposed by Mr. Horner, applied to the equation solved by Wallis‡ (hereinbefore mentioned), and to finding the same number of places of the root:—

$$x^4 - 80\,x^3 + 1998\,x^2 - 14937\,x + 5000 = 0.$$

It is supposed to be found that one positive root lies between 12 and 13.

* This work contains a more complete account of the actual state of the theory of equations than any English work which we can name.

† It is proposed in that article to annex ciphers (as had been done by Mr. Nicholson) in the proper parts of the process, after the manner adopted in the extractions of the square and cube roots. If the beginner will try this method, rejecting all the abbreviations by which it has been attempted to be simplified, he will soon be in a condition to use it with much more facility (whether he afterwards abbreviate or not) than if he had commenced with one of the condensed forms. But, to avoid the appearance of producing two testimonies, where there is only one, the author states that he was also the author of the article cited. He was not then aware that Mr. Nicholson or any one else had proposed the use of ciphers: had he known that this belonged to another person, he would have stated it, adding his opinion that it is the step which completes the analogy of Horner's process with that of common evolution.

‡ This is the equation resulting from the celebrated problem proposed by Dr. Pell to Colonel Silas Titus, and by him to Dr. Wallis, who seems to have considered it as a sort of challenge from Pell, and has discussed it in a most masterly manner. A great deal may be found on the subject of this very equation in the Scriptores Logarithmici and other publications of Baron Maseres.

		First co-efficient, 1.	
			−5000(12·756441794480744
−80	+1998	−14937	−9036
−68	− 816	+14184	
−56			
−44	+1182	− 753	+40360000
−320	− 672	+ 6120	37373441
−313	+ 510	+ 5367000	29865590000
−306	− 528	− 27937	26459730625
−299			
−2920	−1800	+ 5339063	34058593750000
	−2191	− 42931	31723000237296
−2915			
−2910	−3991	+ 5296132000	2335593512704
−2905	−2142	− 4185875	2114644002200
−29000			
	−6133	+ 5291946125	220949510504
−28994	−2093	− 4258625	211462866012
−28988			
−28982	−822600	+ 5287687500000	9486644492
−28976	− 14575	− 520793784	5286568076
	−837175	+ 5287166706216	4200076416
	− 14550	− 521837352	3700597551
	−851725	+ 5286644868864	499478865
	− 14525	− 3486336	475791108
	−86625000	+ 528661000550	23687757
	− 173964	− 3486800	21146271
	−86798964	+ 528657513750	2541486
	− 173928	− 34872	2114627
	−86972892	+ 52865716503	426859
	− 173892	− 34872	422925
	−87146784	+ 52865681631	3934
	− 116	− 87	3700
	−871584	+ 5286568076	234
	− 116	− 87	211
	−871700	+ 5286567989	23
	− 116	− 6	21
	−871816	+ 528656793	2
		− 6	
		+ 528656787	

The whole of the last column is to be found in different parts of Wallis's process; but the divisors in the preceding column differ until the middle of the process. Wallis's divisors are as follow—

5364881 instead of 5367000
5295306481 „ 5296132000
5287600846001 „ 5287687500000;

and they afterwards are only abbreviations of those exhibited above. Surely it is now hardly necessary to say that, in *principle*, the

method of Horner, so called, has been known two hundred years; this process of Wallis being in fact that of Vieta (who died in 1603). But when we come to speak of the *practicability* of the method, we have no longer any right to say that Horner had a predecessor. The preceding process is complete: it omits no process except such as are usually omitted in common multiplication and division, and the number of figures is under 730. The process in Wallis has more than 1100 figures *written down;* and, if all those additions were made which would render it as complete as the preceding, we imagine that the 1100 figures would be at least trebled in number.

If any other proposed method, among those which have come to our knowledge, were applied to the preceding example, *with every necessary figure put down*, we repeat it would be found that the number of their figures would not very materially fall short of those required in the process of Wallis (made complete). At any rate, the following challenge is fair: let any method, other than that of Horner, and completely exhibited, cost less than 1500 figures, and we are ready to admit that method as being a greater improvement upon the ancient process than we had imagined to exist independently of the one to which we have given the preference.

Since the preceding pages were written, we have found the following in Halley's paper on the solution of equations, in the Philosophical Transactions:—"That great discoverer and restorer of the modern Algebra, Francis Vieta, about 100 years since, showed a general method for extracting the roots of any equations, which he published under the title of 'A numerical Resolution of Powers,' &c. Harriot, Oughtred, and others, as well of our own country as foreigners, ought to acknowledge whatever they have written upon this subject as taken from Vieta." This paper of Halley's was republished both in the 'Miscellanea Curiosa' and in Dr. Harris's 'Lexicon Technicum.' It would almost seem as if the method of solving equations were fated to give rise to more unfounded claims of invention than any other. In the same Lexicon Technicum, edited by a person exceedingly well versed in mathematics, and whose work is still unsurpassed as an exhibition of the state of science in a particular country at a particular time, we find the Newtonian method, with no more alteration than writing $(a\,\varphi' a - \varphi a) \div \varphi' a$, instead of $a - (\varphi a \div \varphi' a)$, proposed as a novelty, and attributed to a Mr. Wastel of the Navy Office, who published an edition of a work called 'Parson's Arithmetic.'

V.—EARLY ALMANACS.

The following short paper has been compiled from notes collected at various times, and without any intention of placing a dissertation on the subject before the public. I mention this merely to suggest to the reader that no connected history of almanacs has been attempted, and that it will be unfair to view what is here

placed before him as any other than an attempt to abridge the labour of a successor who might wish, at some future period, to dive more deeply into the subject.—J. O. H.

The early history of almanacs is involved in much obscurity. The Egyptians, indeed, possessed instruments answering most of the same purposes: but the log calendars are the most ancient almanacs, properly so called. Verstegan * derives their name from a Saxon origin, viz., *al-mon-aght*, or the observation of all the moons, that being the purpose for which they were originally made: an eastern origin would appear to me to be more probable. They are doubtless of high antiquity, and, if we can be guided by the errors of the more modern ones in their ecclesiastical computation, we might refer them to the second or third century.† Gruter has delineated one at Rome, and which is said to have been used by the Goths and Vandals: this was cut in elm, though most are in box, and some few in fir, brass, horn, &c. Each of these calendars contains four sides, for the four quarters of the year, and gives the golden numbers, epacts, dominical letter, &c. The numerical notation is imperfect but curious; dots are put for the first four digits, a mark similar to the Roman numeral V, for five; this mark, and additional dots for the next four, and the algebraical sign + for ten. Specimens of these logs may be seen in the British Museum‡; and, as they are not uncommon, it is unnecessary to enter into further detail.

Before I commence with written almanacs, it will be necessary to remark the distinction between astronomical and ecclesiastical calendars, the first of which contain astronomical computations, and the other lists of saints' days, and other matters relative to the church; sometimes, indeed, both are found united, although the latter claim a higher antiquity, being prefixed to most ancient Latin manuscripts of the Scriptures.

The folding calendars were, perhaps, the most ancient forms of them, and merit particular attention. Several of these are in the British Museum,§ and at Oxford; one of them was written in the year 1430, and is in English; but the writer confesses his inability to find suitable expressions for the technical terms which were derived for the most part from the Arabic, "for defawte of terms convenyent in our moder langage." In the Pepysian library at Cambridge there is one printed by Wynkin de Worde, in octo-decimo, which, in its original form, folds up from a small folio sheet of vellum; it bears the date of 1523. ‖

* Restitution of decayed intelligence, p. 64. † MS. Harl., Mus. Brit., 5958.

‡ MSS. Harl. 197, 198. The last of these is a modern one used in Derbyshire or Staffordshire, and cut, probably, in the latter part of the 17th century: the other one is much earlier, though perhaps not of very high antiquity. Others may be seen in the Ashmolean Museum, and in St. John's College, Cambridge. I refer to Dr. Plott's History of Staffordshire for a very good description of them. (See also Brady's *Clavis Calendaria.*)

§ Cotton Rolls, viii. 26; MSS. Harl. 937, 3812, 5311; MSS. Sloan. 996, 2250; which last is the calendar of John Somers, afterwards mentioned. There is also one in the Ashmolean collection at Oxford in singularly fine preservation.

‖ Hartshorne's 'Book Rarities of Cambridge.'

The standard almanacs emanated from Oxford, the seat of British science throughout the middle ages: in fact, before Newton's time, Cambridge was a blank, and the only scientific names that cheer the pages of the history of its early literature are Holbroke of St. Peter's College, Buckley of King's, and Dee of St. John's: the first known by his astronomical tables, the second by a plagiarism of a method of extracting the roots of fractions from Robert Record, and the third a memorable instance of one of the greatest men of his time, uniting the pure truths of science with the grossest absurdities. All three were astrologers,* owing, perhaps, more to the place of their education than to the individuals themselves.

There has been some dispute relative to the authenticity of Roger Bacon's calendar, of which there is a MS. in the British Museum: the following is an exact transcript of the commencement:—

"Kalendarium sequens extractum est a tabulis tholetanis. anno domini. 1292. factus ad meridiem civitatis tholeti que in Hispania scita est cujus meridianus non multum distat a meridiano medii puncti Hibernie in quo. 3. continentur." f. 2.

If we retain *factus*, it cannot be translated, but, fortunately, the other MS. at Oxford has *factum*, and this must evidently be the true reading. Professor Peacock writes *factis;* but there is not, as far as I know, any MS. authority for it. With respect to the author of it, the Bodleian MS., in a coeval rubric, states the calendar to have been written *à fratre Rogero Bacon;* while the Cotton MS., not having any original title, is ascribed to Roger Bacon, in a hand of the 17th century: both of the MSS. belong to the 14th century. In the Harleian collection (No. 941) is a MS. on the length of the days throughout the year, stated to have been "made at Oxynforde be the new kalendere and proved in all the university:" this "new kalendere" may possibly refer to Roger Bacon's; but there are not sufficient data to enable us to attain an approach to certainty.

The calendar of John Somers, of Oxford, written in 1380, was one of the most popular of the time: there is generally appended to it, *Tabula docens algorismum legere, cujus utilitas est in brevi satis spatio numerum magnum comprehendere. Et quia numeri in kalendario positi vix excedunt sexaginta, ultra illam summam non est protensa.*† Several English translations of this tract are among the Ashmolean MSS.

We have likewise in MS. 'Almanach Profacii Judei," which is very ancient. Walter de Elvendene wrote a calendar in 1327‡, and Nicholas de Lynna published another in 1386§. Sometimes these calendars are found in rolls.

In the library at Lambeth Palace is a very curious calendar in the English language, written in 1460; at the end is a table of

* Holbroke is admitted by all to have been an astrologer. Buckley wrote a treatise which involves the principles (MS. Bib. Reg. 12 A., xxv.); and with respect to Dr. Dee, no doubt can arise.

† MS. Bib. Cott. Mus. Brit. Vespas. E. vii. f. 4.

‡ MS. Sloan. Mus. Brit. 286. § MS. Ashm. Oxon., 5.

eclipses from 1460 to 1481; but a very perfect volvelle is most worthy of notice, because those instruments are generally found imperfect. In the Cottonian collection is another English calendar, written about 1450, but so much damaged by the fire that the nature of it cannot be seen. In Trinity College, Cambridge, there is a MS. said to have been composed in 1347, and entitled, 'An Almanak, translated in perpetuite, out of Arabike into Latin;' and in the same library I find 'The Effemerides of John of Mounte Riol,' a German "Prince of Astronomyers." Professor Leslie mentions a very beautiful calendar in the library of the university of Edinburgh, with the date of 1482: he does not appear to be aware that they were common in MS. libraries, and he greatly overrates its value.

There was printed at Hackney, in 1812, a small octavo volume, containing an account of an English almanac for the year 1386: it contains a very large portion of astronomical and medical matter, but appears to be of little interest, save that it is the earliest one in English I have ever heard of. The contents of this calendar are as follow:—

1. The houses of the planets and their properties.
2. The exposition of the signs.
3. Chronicle of events from the birth of Cain.

In 1325 there was a "grete hungur" in England; in 1333 a great tempest; in 1349 the first, in 1361 the second, and in 1369 the third pestilence. It is curious to remark the clumsy method of expressing numbers consisting of more than two figures: for instance, we have 52mcc20 put for 52,220. This shows that the Arabic notation was even then but imperfectly understood among the common people.

4. To find the prime numbers.
5. Short notes on medicine.
6. On blood-letting.
7. A description of the table of the signs, and moveable feasts.
8. Quantitates diei artificialis.

The extracts from this calendar are wretchedly transcribed, and evidently by one who was totally unacquainted with MSS.

The clock or albion of Richard de Walingford, of St. Alban's, answered the purpose of a calendar.* This clock made, says Bale, who appears to have seen it, *magno labore, majore sumptu, arte vero maxima*, was considered the greatest curiosity of its time. In his account of it, which still remains in manuscript, we have the following definitions:—"Albion est geometricum instrumentum: almanac autem arismetricum." Peter Lightfoot's celebrated

* In one almanac of the commencement of the seventeenth century (MS. Harl. 5937 Bagford Collect., s. 139) is a very singular method for finding the hour of the day, if in the country and without any watch. I refer to it merely out of charity to those right-hearted enthusiastic antiquaries who do not *stick at trifles* in pursuing researches that can in any way illustrate the customs of our ancestors in the *good old times*. To those who only value the researches of antiquaries in proportion as they are likely to furnish some evident tangible utility, I would willingly spare their time in recurring to a method which, though it might excite their ridicule, could never, from its nature, be brought into practice in the present age.

astronomical clock at Glastonbury may have been something of the same sort.

Peter de Dacia, about 1300, published a calendar, of which there is a very early MS. in the Savilian library at Oxford: the "condiciones planetarum" are thus stated—

> "Jupiter atque Venus boni, Saturnusque malignus;
> Sol et Mercurius cum Luna sunt mediocres."

The "homo signorum," so common in later calendars, probably originated with him.

The earliest almanac printed in England was the 'Sheapeheard's Kalender,' translated from the French, and printed by Richard Pynson, in 1497. It contains a vast portion of extraneous matter. The following verses on the planets will, at the same time, give a good idea of the nature of the astrological information in this and other calendars of the period :—

> 'Some hot, some colde, some moyst, some dry,
> If three be good, foure be worse at the most.
> Saturne is hyest and coldest, being full old,
> And Mars, with his bluddy swerde, ever ready to kyll;
> Jupiter very good, and Venus maketh lovers glad,
> Sol and Luna is half good and half ill.
> Mercury is good and will verily,
> And hereafter shalt thou know,
> Whiche of the seven most worthy be,
> And who reigneth hye, and who a lowe;
> Of every planets propertie,
> Which is the best among them all,
> That causeth welth, sorrowe, or sinne,
> Tarry and heare sone thou shalt,
> Speake softe, for now I beginne."

Afterwards follow some prognostications of the weather. The following method "to knowe what wether shall be all the yere after the chaunge of every moone by the prime dayes," is taken from a MS. in Lambeth Palace :—

> "Sondaye pryme, drye wether.
> Mondaye pryme, moyst wether.
> Teusdaye pryme, cold and wynde.
> Wenesdaye pryme, mervelous.
> Thursdaye pryme, sonne and clere.
> Frydaye pryme, fayre and fowle.
> Saturday pryme, rayne."

Prognostications of the weather were early matters of reproach—

> "Astronomyers also aren at ere whittes ende,
> Of that was calculed of the clymat the contrye thei fyndeth.

And in Heber's library was a little tract of three leaves, entitled 'A Mery Prognostication'—

> "For the yere of Chryste's incarnacyon,
> A thousande fyve hundreth fortye and foure.
> This to prognosticate I may be bolde,
> That whan the new yere is come, gone is the olde.

Henry VIII. issued a proclamation against such false prognostications as this tract was intended to ridicule, but still no printer

ventured to put his name to it. Not long after to believe them was a crime; "as for astrologicall and other like vaine predictions or abodes," says Thomas Lydiat, "I thanke God I was never addicted to them."*

Johannes de Monte-Regio, in 1472, composed the earliest European almanac that issued from the press; and, before the end of that century, they became common on the Continent. In England they were not in general use until the middle of the sixteenth century. Most of the best mathematicians of the time were employed in constructing them; but, before the end of the following century, almanac-makers began to form a distinct body, and, though they often styled themselves "studentes in the artes mathematicall," very few of them were at all celebrated in the pure sciences.

It may not be wholly irrelevant here to make some few observations on the memory-rhymes found in some almanacs of the present day, and which date their origin to a much earlier period. The well-known lines, used by many for recalling to their recollection the number of days in each month, I find in Winter's Cambridge Almanac for 1635, under the following slightly-varied form—

> "Aprill, June, and September,
> Thirty daies have as November;
> Ech month else doth never vary,
> From thirty-one, save February;
> Wich twenty-eight doth still confine,
> Save on Leap-yeare, then twenty-nine.

And the nursery-rhymes, commencing "Multiplication is my vexation," were certainly made before 1570.†

The early history of ecclesiastical computation is intimately connected with that of calendars. Dionysius Exiguus was one of the first who wrote on the subject: after him, Bede, Gerlandus, Alexander de Villa Dei, and Johannes de Sacro-Bosco, were the most celebrated. The Massa Compoti of Alexander de Villa Dei, so common in MS., is perhaps the most singular tract on the subject that has come down to us: his reason for the title of the book is exceedingly curious:—*Sicut de multis laminis æris in conflatorio massa una efficitur, ideo librum istum vocari volui massam compoti.*

I cannot conclude without mentioning the 'Almanac and Prognostication' of Leonard Digges, which was so often reprinted in the latter half of the sixteenth century: it is filled with the most extravagant astrological absurdities, and a table of weather predictions. With respect to the latter, however, I have had the curiosity to test its accuracy for some months in comparison with our two celebrated weather almanacs, and, on the average, have found it to be quite as "neare the marke" as either of them.

* MS. Bodl. 662.
† Professor Davies's Key to Hutton's Mathematics, p. 17.

VI.—OCCULTATIONS OF PLANETS AND FIXED STARS BY THE MOON,

VISIBLE AT GREENWICH.

(From the Nautical Almanac.)

Day of the Month.	Star's Name.	Magnitude.	IMMERSION. Sidereal Time.	IMMERSION. Mean Time.	IMMERSION. Angle from N. Point.	IMMERSION. Angle from Vertex.	EMERSION. Sidereal Time.	EMERSION. Mean Time.	EMERSION. Angle from N. Point.	EMERSION. Angle from Vertex.
1839.			h m	h m	°	°	h m	h m	°	°
Jan. 7	58 Virginis	6	7 28‡	12 20	80	42	8 26	13 19	216	179
9	Libræ	6	13 10	17 54	131	115	13 36	18 19	168	157
10	1 Scorpii	5	15 10	19 49	27	22	16 12	20 51	288	293
22	ψ Arietis	6	8 46†	12 39	17	56	. .	. .	. .	. .
24	χ Tauri	6	7 8†	10 54	9	48	. .	. .	. .	. .
26	*c* Aurigæ	6	11 39†	15 16	168	213	. .	. .	. .	. .
30	34 Leonis	6	11 53†	15 15	145	170	. .	. .	. .	. .
Feb. 1	H Leonis	6	6 58	10 12	111	75	7 39	10 53	183	149
3	50 Virginis	6	15 13	18 18	86	107	16 20	19 25	209	239
19	47 Arietis	6	2 31	4 36	116	111	3 45	5 49	298	314
23	47 Geminorum..	6	9 15	11 2	53	89	10 21	12 8	275	318
28	τ Leonis	4	15 30	16 57	357	33	16 4	17 31	295	333
Mar. 4	Virginis	6	11 52†	13 4	326	305	. .	. .	. .	. .
6	π Scorpii	3.4	14 54	15 57	126	117	15 38	16 41	191	189
19	*b* Pleiadum	4.5	7 53	8 6	86	129	8 51	9 4	295	337
19	*g* Pleiadum	5.6	7 56	8 9	124	167	8 52	9 5	257	300
19	*c* Pleiadum	5	8 25	8 39	132	175	9 15	9 28	248	290
19	*e* Pleiadum	5	8 31	8 44	178	220	8 44	8 57	203	246
19	*d* Pleiadum....	3	8 56†	9 9	10	52	. .	. .	. .	. .
19	η Tauri	3	9 4	9 17	59	101	9 47	10 0	320	0
19	*h* Pleiadum....	5.6	9 47	10 0	50	91	10 23	10 36	327	6
19	*f* Pleiadum....	5	10 4†	10 17	9	49	. .	. .	. .	. .
Apr. 3	τ Scorpii	3.4	16 37	15 50	42	44	17 47	17 0	291	303
6	*p* Sagittarii	6	15 57‡	14 58	102	74	17 12	16 13	268	250
16	χ Tauri	6	9 59†	8 21	5	47	. .	. .	. .	. .
18	*c* Aurigæ	6	11 45†	9 59	168	212	. .	. .	. .	. .
22	34 Leonis	6	12 30†	10 29	145	176	. .	. .	. .	. .
26	50 Virginis	6	17 18	15 0	136	171	17 36	15 18	168	204
May 2	γ^1 Sagittarii. ...	5	14 19‡	11 38	23	352	14 56½	12 15	321	294
16	47 Geminorum..	6	12 46†	9 11	165	207	. .	. .	. .	. .
21	τ Leonis	4	15 9	11 14	58	92	16 16	12 20	236	273
25	Virginis	6	12 16†	8 5	326	308	. .	. .	. .	. .
27	π Scorpii	3.4	14 42	10 23	83	72	16 2	11 42	235	236
June 30	42 Aquarii.....	6	23 5†	16 31	215	224	. .	. .	. .	. .
July 1	83 Aquarii.....	6	21 11†	14 33	36	18	. .	. .	. .	. .
1	φ Aquarii	5	3 20†	20 41	33	67	. .	. .	. .	. .
14	Venus	.	9 11†	1 44	143	124	. .	. .	. .	. .
23	γ^1 Sagittarii	5	16 24	8 21	34	20	17 13	9 9	321	315
Aug. 24	58 Aquarii	6	0 41	14 30	179	201	1 20	15 9	252	278
25	φ Aquarii.....	5	18 34	8 20	124	89	19 36	9 23	297	266
25	Georgian ...	.	18 59	8 45	179	145	19 31	9 17	242	210
25	96 Aquarii.....	6	21 43	11 29	142	126	22 51	12 37	292	289
29	47 Arietis	6	0 25†	13 55	29	356	. .	. .	. .	. .
29	ε Arietis	5	1 0	14 30	146	118	2 2	15 31	271	257
30	*b* Pleiadum ...	4.5	19 4‡	8 31	134	104	19 46	9 13	262	228
30	*g* Pleiadum ...	5.6	19 28†	8 54	198	166	. .	. .	. .	. .

Day of the Month.	Star's Name.	Magnitude.	IMMERSION.				EMERSION.			
			Sidereal Time.	Mean Time.	Angle from N. Point.	Angle from Vertex.	Sidereal Time.	Mean Time.	Angle from N. Point.	Angle from Vertex.
1839.			h m	h m	°	°	h m	h m	°	°
Aug. 30	*d* Pleiadum ...	5	19 28	8 55	78	46	20 9	9 36	319	283
30	*c* Pleiadum ...	5	19 49†	9 16	198	164	. .	. .	. .	. .
30	η Tauri	3	19 52	9 19	94	60	20 39	10 5	304	266
30	*h* Pleiadum ...	5.6	20 30	9 56	74	37	21 10	10 36	326	286
30	*f* Pleiadum ...	5	20 35	10 2	48	11	20 59	10 25	352	313
Sept. 1	136 Tauri	4.5	20 46‡	10 5	54	27	21 21	10 40	317	286
19	χ^3 Capricorni ..	6	22 13	10 20	57	68	22 44	10 51	5	21
20	ι Aquarii.....	4.5	1 12	13 15	191	219	1 36	13 39	236	267
21	81 Aquarii	6	2 32	14 31	153	184	3 25	15 24	274	310
23	60 Piscium	6	3 17†	15 8	33	61	. .	. .	. .	. .
23	62 Piscium	6	3 41	15 32	136	167	4 42	16 33	286	323
23	δ Piscium	5	4 30	16 20	195	230	4 47	16 38	227	264
25	μ Arietis	6	4 12	15 55	130	155	5 18	17 1	277	312
26	*g* Pleiadum ...	5.6	4 47	16 25	48	70	5 24	17 2	345	15
26	*e* Pleiadum ...	5	4 49	16 28	87	109	5 56	17 35	305	340
26	*b* Pleiadum ...	4.5	5 8†	16 47	16	43	. .	. .	. .	. .
26	*c* Pleiadum ...	5	5 17	16 56	51	79	5 58	17 37	339	14
Oct. 1	γ Cancri.....	5	1 35†	12 55	169	131	. .	. .	. .	. .
17	γ Capricorni...	4	0 59†	11 16	212	242	. .	. .	. .	. .
18	58 Aquarii	6	0 37	10 50	156	178	1 35	11 48	375	303
19	Φ Aquarii	5	18 54	5 4	111	77	19 57	6 7	312	283
19	96 Aquarii	6	22 1	8 11	129	117	23 12	9 21	306	306
23	47 Arietis	6	20 38	6 32	118	79	21 29	7 23	291	250
29	*q* Cancri	6	1 36	11 6	43	8	2 22	11 52	287	249
31	59 Leonis	5.6	5 14	15 2	37	358	6 40	16 1	266	230
Nov. 14	ι Aquarii	4.5	22 27	6 54	150	155	23 34	8 1	280	295
15	81 Aquarii	6	1 56	10 19	101	129	2 55	11 17	327	0
15	82 Aquarii	6	2 59	11 22	156	190	3 51	12 13	270	307
15	Georgian ...	.	4 20†	12 42	30	68	. .	. .	. .	. .
17	62 Piscium	6	5 17	13 31	102	139	6 12	14 26	314	353
17	δ Piscium	5	5 43	13 57	147	185	6 32	14 47	268	307
19	μ Arietis	6	5 39	13 46	139	175	6 35	14 41	261	301
20	*g* Pleiadum....	5.6	4 48	12 51	90	112	5 54	13 56	301	336
20	*b* Pleiadum....	4.5	5 1	13 4	43	68	5 33	13 36	348	19
20	*e* Pleiadum....	5	5 4	13 7	120	145	6 10	14 13	270	308
20	*c* Pleiadum....	5	5 18	13 20	92	120	6 24	14 26	297	335
20	η Tauri	3	6 34†	14 36	12	51	. .	. .	. .	. .
22	136 Tauri	4.5	1 29	9 24	62	17	2 18	10 13	314	271
Dec. 1	85 Virginis.....	6	10 32†	17 51	326	299	. .	. .	. .	. .
10	η Capricorni...	5	0 54	7 39	126	159	1 57‡	8 41	291	328
17	47 Arietis	6	22 20	4 38	68	27	22 59	5 16	346	305
17	ς Arietis	5	23 29	5 46	190	151	23 47	6 4	225	187
21	A Geminorum..	6	23 40†	5 41	356	322	. .	. .	. .	. .
21	$\varkappa$ Geminorum..	4	8 37	14 37	35	54	9 34	15 33	286	319
24	45 Leonis	6	7 19	13 8	55	22	8 32	14 20	241	219
24	ϱ Leonis	4	11 8§	16 56	144	153	. .	. .	. .	. .
24	49 Leonis	6	12 27	18 15	87	111	13 26	19 14	203	235
31	ϖ Scorpii	3.4	14 10†	19 30	158	143	. .	. .	. .	. .

‡ Star below the horizon. † A near approach. § Star rising.

VII.—BILL OF MORTALITY FOR LONDON.

CHRISTENINGS AND BURIALS.

A General Bill of the Christenings and Burials within the City of London and Bills of Mortality, from December 13, 1836, to December 12, 1837.

	Chr.	Bur.
In the 97 Parishes within the Walls	958	958
In the 17 Parishes without the Walls	6,363	3,863
In the 24 Out Parishes in Middlesex and Surrey (the District Churches belonging thereto being included)	25,948	13,883
In the 10 Parishes in the City and Liberties of Westminster	2,437	2,359
Totals .. Christenings. Males...17,701 Females.18,005 — Burials. Males...10,605 Females.10,458	35,706	21,063

OF THE NUMBER BURIED WERE

Still-born (not included in the above)	845	Sixty and under Seventy .	2,246
Under Two Years of Age .	4,891	Seventy and under Eighty .	1,860
Two and under Five Years .	2,003	Eighty and under Ninety .	710
Five and under Ten	774	Ninety and under One Hundred	84
Ten and under Twenty . .	755	One Hundred	1
Twenty and under Thirty .	1,555	One Hundred and Two . .	2
Thirty and under Forty. .	1,937	One Hundred and Three .	2
Forty and under Fifty . .	2,204	One Hundred and Eight .	1
Fifty and under Sixty . .	2,038		

The "Bill" is this year more imperfect than usual, both in the enumeration of christenings and deaths, and as a table of medical statistics; and the following explanation is given to account for this fact:—"By the operation of the new Registration Act much difficulty has occurred in obtaining reports of the christenings and burials; in consequence of which, in some parishes, the reports have been wholly withheld; and in those of several other parishes, wherein the office of searcher has been discontinued, the diseases of which deaths have taken place have been necessarily omitted: in this latter case, the numbers reported are, in the table of diseases, added to the 'unknown causes.'"

VIII.—NATIONAL VACCINE INSTITUTION.

The Annual Report to the Secretary of State contains the following observations:—"The amount of deaths by small-pox this year, within the bills of mortality, has been less than in any former one since vaccination was first promulgated; but we are sorry to say that the disease has prevailed with its usual mortality in several parts of the country." This is, in great measure, to be attributed to inoculation being still resorted to

by many persons who distrust the protective powers of vaccination, and suppose that the vaccine matter has lost its influence by time. Such an opinion, the reporters observe, is not supported by analogy. They add,—"the virus of small-pox itself has lost nothing of its force in the course of 200 years; and we are enabled to state a strong fact, with perfect confidence, in proof of the efficacy of the vaccine matter at present, viz. that, of more than 70,000 vaccinated in descent with successive portions of the matter originally collected by Dr. Jenner, 38 years ago, vaccination has manifested its peculiar influence in all; though, of this number, some hundreds have been subjected to the severest trials by exposure to small-pox in its most fatal form." They point to the rarity of examples of disfigurement by the disease, in proof of the general truth, that the protective power of the vaccine matter has not been weakened; but state, that "to do justice to the merit of vaccination, it ought to be performed by well-instructed and skilful surgeons, who are able to discover whether there be any temporary ill prevailing in the habit of the patient to be submitted to it, in the form of a slight cutaneous eruption (for this will often render the body unsusceptible, for a time, of effectual vaccination); whether the prevalence of any epidemic disease may interfere with the success of the process; for it has been remarked by several experienced vaccinators that the influenza of last year did make it necessary to repeat vaccination more than once or twice before it took effect." It is of the utmost importance, therefore, that parents should take care that the operation has been successful. The Vaccine Board has supplied 20,000 charges of lymph more this year than in any previous year, and it is stated that "most of the capitals of Europe have availed themselves occasionally of our resources, in which they express their entire confidence."

The above Report was made in the spring of 1838. In November, 1838, a Report was read before a General Court of the Governors of the Small-Pox Hospital, which states that in the month of November, 1837, small-pox began to spread epidemically in London, and so widely that from that month until November, 1838, the admissions into the Small-pox Hospital amounted to 740—the largest number ever received in one year since the foundation of the Hospital, and about 100 were refused admittance for want of room. In consequence of the increase of patients within the last twelve months, the wards were so crowded that a fever of a very malignant sort gained a footing in the Hospital, and swelled the already severe mortality. A considerable number of the patients admitted of late years had been vaccinated in early life. The proportion is two vaccinated to three unvaccinated persons. A large portion of the former had the small-pox very mildly, but many of them, from exposure within the Hospital to the pernicious exhalations from bad cases, have been brought into imminent hazard, and some have lost their lives.

PART II.

GENERAL INFORMATION ON SUBJECTS OF CHRONOLOGY, GEOGRAPHY, STATISTICS, &c.

IX.—ENUMERATION AND NOTICE OF ACTS OF PARLIAMENT FOR THE REGULATION OF THE TRADE IN WHEAT.

It is now twenty-two years since a generally deficient harvest has been experienced in this country, and since 1816 we have had but two years in which the crops threatened the country with anything like a serious scarcity; while, on the other hand, for five consecutive years—that is, from 1832 to 1836—the harvests were abundant beyond the usual average. In the year 1837 the harvest was below an average, and the harvest of 1838 is believed to be deficient to an equal extent with that of the previous year; being the first time, for the last thirty years, in which there have been deficient harvests in two successive years. The price of wheat has, of course, been sensibly affected by this conjuncture, and has risen higher than it has ever been since 1819.

Burke, in his 'Thoughts and Details on Scarcity,' published in 1795, speaks of the "bad cycle" of the twenty previous years; and several deficient seasons, previous and subsequent to 1795, entitled that period to the appellation. Of one thing we may be assured, that the occurrence of a bad season may be expected in every country at intervals of greater or less duration; and the longer the time during which we have been receding from such a year, the nearer approach do we make towards another of similar character. It is true that, since Mr. Burke published his 'Thoughts,' the science of agriculture has made extraordinary progress; and, while this has had the effect of ensuring a larger amount of produce from a given surface, draining, and other modes of improving the character of the soil, have greatly decreased the risk to which the crops were exposed by an unfavourable season. The frequent periods of dearth noticed in the 'Saxon Chronicle,' and which were ascribed to the injury the crops sustained from unfavourable weather, were aggravated by the imperfections of the Anglo-Saxon husbandry and the want of drainage. Thus, the progress of industry renders more certain the resources whence men derive the reward for their labour. But even if the seasons do not move in a cycle of successively favourable and unfavourable years, effects similar to those which the latter produce are experienced through the operation of artificial

causes. By this means, some of the beneficial effects of progressive improvements in agricultural skill and knowledge may be counterbalanced or lost.

In a country in which the population has doubled itself within the last sixty years, the regulations affecting the commerce in grain which were applicable half a century ago cease to be so at a later period. But, though constantly undergoing revision, one principle has been constantly kept in view, and no modification has ever been made without reference to its preservation. Naturally, the subject of the trade in wheat divides itself into two distinct periods:—

1. That which refers to the period when England exported a considerable quantity of grain annually;

2. That in which it ceased to be an exporting, and became an importing, country.

But, in these two periods, there occur points of a sufficiently marked character to allow of the question being usefully treated in smaller subdivisions, to each of which belongs some peculiarity that distinguishes and separates it from the rest. The following subdivisions place the subject in the most perspicuous order:—I. From Early Times to 1688. II. From 1688 to 1773. III. From 1773 to 1791. IV. From 1791 to 1804. V. From 1804 to 1815. VI. From 1815 to 1828.

I. *From Early Times to* 1688.—No great practical benefit can arise from bestowing much space on the former part of this period. In a statute of the thirteenth century we find that it had become an object of inquiry to ascertain the average prices of wheat and other grain. Directions to this effect are given in the statute entitled *Judicium Pillorie*, supposed to be of the date of 51 Henry III. (1266-7), to individuals charged with the duty of inquiring into the municipal and other affairs of towns:—"First, they shall inquire the price of wheat, that is to wit, how a quarter of the best wheat was sold the last market-day, and how the second wheat, and how the third; and how a quarter of barley and oats." In 1351, when the Statute of Labourers was passed, wages were, under some circumstances, regulated by the market-price of corn. In 1360 the exportation of corn was prohibited by statute.* In 1389 a statute was enacted which prohibited innkeepers and others taking more than one halfpenny per bushel for oats over the common price in the market.† The spirit of this regulation was, at a subsequent period, much more widely acted upon. In 1393 corn might be exported by king's subjects "to what parts that please them," except to the king's enemies. "Nevertheless," it is added, "the king wills that his council may restrain the said passage when they shall think best for the profit of the realm."‡ Two statutes, passed respectively in 1391 § and in 1413,‖ notice the irregularity which existed throughout the country in buying and selling corn. In many market-towns, buyers would not purchase

* 34 Edw. III., c. 20. † 13 Ric. II., s. 1, c. 18. ‡ 17 Ric. II., c. 7.
§ 15 Ric. II., c. 4. ‖ 1 Hen. V., c. 10.

except at nine bushels the quarter instead of eight. The purveyors for the supply of the king's household frequently compelled the sellers to carry the corn which they had bought, and refused to pay the cost of carriage. In London, it is noticed, the buyers charged the sellers one halfpenny per bushel for measuring.

In 1436 we have an interesting indication of the advancement of agriculture, and of its powers of production having outstripped the necessities of the home market; the exportation of wheat being allowed by statute, without the necessity of obtaining the king's license, when the price per quarter at the place of shipment was 6*s.* 8*d.* It is evident that, at this period, there was a surplus stock in the country, and that, for want of a market, the producers were experiencing all the symptoms of "agricultural distress." This view is supported by the preamble to the statute, which sets forth that—"Forasmuch as by the law it was ordained that no man might carry nor bring corn out of the realm of England without the king's license, for cause whereof farmers and other men, which use manurement of their land, may not sell their corn but of a bare price, to the great damage of all the realm;" and the remedy provided is a freer permission to export the surplus—a regulation which is intended for the profit of the whole realm, but "especially for the counties adjoining to the sea."* In 1441 this statute was continued,† and in 1444-5 it was rendered perpetual.‡

Nearly thirty years afterwards occurs the first symptom of a protective corn-law, from which we may conclude that the balance of prices had turned; and that, at least for a time, prices were higher in England than in the neighbouring countries. This might be the result of abundant seasons on the Continent; but, at all events, the exportation of their surplus stocks gave rise to complaints which were followed by a statute passed in 1463, in the preamble of which it is remarked that—"Whereas the labourers and occupiers of husbandry within this realm be daily grievously endamaged by bringing of corn out of other lands and parts into this realm, when corn of the growing of this realm is at a low price;"§ in remedy of which it is enacted that wheat should not be imported, unless the price at the place of import exceeded 6*s.* 8*d.* per quarter. The mode in which the prices of corn were to be ascertained is not alluded to in the statute; but this devolved upon the municipal authorities or the justices of the peace.

A considerable period elapsed before the foreign trade in wheat or other grain again became the object of any new enactments. In the mean time, the home trade was frequently regulated by statute. The rise in prices which occurred during the sixteenth century was ascribed to the "greedy covetousness and appetites" of dealers, and most active means were adopted to deprive them of their supposed exorbitant profits. It had long been customary to assess the prices of provisions and victual of every description;

* 15 Hen. VI., c. 2. † 20 Hen. VI., c. 6. ‡ 23 Hen. VI., c. 5.
§ 3 Edw. IV., c. 2.

and, though a statute, passed in 1533-4, set out with the rational observation that, "forasmuch as dearth, scarcity, good cheap, [good market], and plenty [of victual], happeneth, riseth, and chanceth, of so many and divers reasons that it is very hard and difficult to put any certain prices to any such things," yet it ended by enacting that, on complaint being made of high prices, they shall be regulated by the lords of the council, and made known by proclamation; and that farmers and others shall sell their commodities at the prices thus fixed.* By this statute, neither corn nor provisions were to be exported without the king's license. But neither these nor any other restrictions could long confine prices below their natural level, and they rose in spite of the most persevering attempts to keep them down. In September, 1549, a proclamation was issued, directed against dealers in the principal articles of food. According to it, no man was to buy or sell the self-same thing again, except brokers, and they were not to have more than ten quarters of grain in their possession at one time. This proclamation directed, "that all justices should divide themselves into the hundreds, and look what superfluous corn was in every barn, and appoint it to be sold at a reasonable price; also, that one must be in every market-town to see the corn bought. Whoso brought no corn to market, as he was appointed, was to forfeit 10*l.*, unless the purveyors took it up, or it was sold to the neighbours."† Obedience to these regulations was not confined to the temporary provisions of a proclamation; but, in 1551-2, they were, with some modifications, embodied in a statute. By this enactment, engrossers (persons buying corn to sell again) were subjected to heavy penalties. For the third offence they were to be set in the pillory, to forfeit their personal effects, and to be imprisoned during the king's pleasure. The severity of the punishment shows how difficult it was to repress the offence, and the severe struggle which must have been maintained in resisting the rise of prices. It was the struggle of the natural powers of capital—working, in truth, for the advantage of society as well as for its individual gain—against ignorant laws. By this statute, farmers buying corn for seed were compelled to sell at the same time an equal quantity of their corn in store, under penalty of forfeiting double the value of what they had sold. Persons might engross corn, not forestalling it—that is, enhancing the price or preventing the supply—when wheat was under 6*s.* 8*d.* per quarter.‡ In 1562-3 a further attempt was made to restrict the operations of buying and selling in articles of food, as well as many other commodities. The 5 and 6 Edward VI., c. 14, already quoted, contained a proviso that corn-badgers, allowed to that office by three justices of the peace of the county where the said badger dwelt, could buy provisions in open fair or market for towns and cities, and sell them without being guilty of the offence of forestalling; but this relaxation of the statute was corrected by the statute, passed in 1562-3, in the preamble of

* 25 Hen. VIII., c. 2.
† King Edw. VI. Journal; Sharon Turner's Hist. Eng., vol. i. p. 172.
‡ 5 and 6 Edw. VI., c. 14.

which the former enactment is thus alluded to:—"Since the making of which act such a great number of persons, seeking only to live easily and to leave their honest labour, have and do daily seek to be allowed to the said office, being most unfit and unmeet for those purposes, and also very hurtful to the commonwealth of this realm, as well as by enhancing the price of corn and grain, as also by the diminishing of good and necessary husbandmen."* It is then enacted that the licenses to corn-badgers are only to be granted once a-year by the justices at quarter-sessions, instead of at any period by three justices; and that none were to obtain a license but resident householders of three years' standing, who are or have been married, and are of the age of thirty, and are not servants or retainers to another person. Those who received a license were to have it renewed at the end of every year. Licensed persons were also required to find security not to forestall or engross in their dealings, and not to buy out of open fair or market, except under express license. The statute did not apply to the following counties — Westmoreland, Cumberland, Lancaster, Chester, and York. It was scarcely possible for the legislature to do more towards the discouragement of a most useful and beneficial class of men, whose operations are of such service to society in general, and to the poor in particular. But the object was, to deprive the intermediate dealers of their profits, and even occupation, thinking that it was their exorbitance which raised prices to the height they had attained; and that, if no middle-man came between the producer and consumer, the balance of wants would be settled in the most natural manner, and prices would be more reasonable. But, in the sixteenth century, the laws, as already shown, stepped in and controlled even the producer. Enactments of this description were loudly demanded by the popular voice; for the people could scarcely get bread sometimes in consequence of the high price of provisions. Harrison, who wrote the account of England for Holinshed's History, about this period, says:—"The price of corn is so great that the artificer and poor labouring man is not able to reach unto it, but is driven to content himself with horse-corn." Hence, according to Harrison, the origin of the proverb, which has now lost its application, that "hunger setteth his first foot into the horse-manger."

Turning back eight years, to 1554-5, a statute was enacted at this period, from which it appears that former acts against the exportation of grain and provisions had been evaded, by reason whereof they had grown into a "wonderful dearth and extreme prices." It was enacted that, when prices exceeded 6*s.* 8*d.* per quarter for wheat, exportation was to cease; and that, when it was under that price, it could not be exported to any foreign country, or to Scotland, without a license, under penalty of forfeiting double the value of the cargo as well as the vessel, besides imprisonment of the master and mariners of the vessel for one year. The penalty for exporting a greater quantity than was warranted by the license was treble the value of the cargo and imprisonment; and a

* 5 Eliz., c. 12.

cargo could be taken only to the port mentioned in the license.* In 1558-9 wheat might be exported from the usual ports of Norfolk and Suffolk when the price did not exceed 6*s.* 8*d.* per quarter.† At this period, the traders in the eastern maritime counties, owing to the want of good roads, were as intimately connected with the Flemings as with the midland and western counties of England. When Henry VI. permitted corn to be exported, it was especially for the benefit of the maritime counties. In 1562 the price at which exportation might take place was raised from 6*s.* 8*d.* per quarter to 10*s.*‡

In 1571 a statute was passed in which an attempt seems to have been made to place the trade in corn on a more systematic footing. It contains provisions for settling once a-year the average prices by which exportation should be governed. The Lord President and Council in the North, also the Lord President and the Council in Wales, each in their respective jurisdictions, and the Justices of Assize, at their several sessions, in other shires out of the two former jurisdictions, "yearly shall, upon conference had with the inhabitants of the country, of the cheapness and dearth of any kinds of grain," determine "whether it shall be meet at any time to permit any grain to be carried out of any port within the said several jurisdictions or limits; and so shall, in writing, under their hands and seal, cause and make a determination either for permission or prohibition, and the same cause to be, by the sheriff of the counties, published and affixed in as many accustomed market-towns and ports within the said shire as they shall think convenient."§ The averages, when once struck, were to continue in force until the same authorities order otherwise. Should the regulations of these authorities "be hurtful to the country by means of dearth, or be a great hindrance to tillage by means of too much cheapness," the same authorities could assemble and make the necessary alterations. All proceedings under this act were to be notified to the queen or privy council. The statute enacted that, "for the better increase of tillage, and for maintenance and increase of the navy and mariners of this realm," corn might be exported at all times to friendly countries, when proclamation is not made to the contrary. A poundage or customs duty of 1*s.* per quarter was charged on all wheat exported; but if exported under a special license, and not under the act, the customs duty was 2*s.* per quarter.

In 1592-3 the price at which exportation was permitted was raised to 20*s.* per quarter, and the customs duty was fixed at 2*s.*‖ In 1603-4 the importation price was raised to 26*s.* 8*d.* per quarter;¶ and, in 1623, to 32*s.***—having risen, in the course of sixty-five years, from 6*s.* 8*d.* By the 21 Jac. I., c. 28, no alteration was made in the unenlightened restrictions imposed by the 5 and 6 Edward VI., c. 14, about seventy years before; and, unless wheat was under 32*s.* per quarter, and other grain in proportion, buying

* 1 and 2 Philip and Mary, c. 5. † 1 Eliz., c. 2. ‡ 5 Eliz., c. 5.
§ 13 Eliz., c. 13. ‖ 35 Eliz., c. 7. ¶ 1 Jac. I., c. 25.
** 21 Jac. I., c. 28

corn and selling it again was not permitted. The king could restrain the liberty of exportation by proclamation. In 1627-8 another statute, relative to the corn-trade, was passed, which, however, made no alteration in the previous statute of James I.* In 1660 a new scale of duties was introduced. When the price of wheat per quarter was under 44*s.*, the export duty was 5*s.* 6*d.*; and, when the price was above 44*s.*, the duty rose to 6*s.* 8*d.* Exportation was permitted free whenever the price of wheat did not exceed 40*s.* per quarter.†

Up to the middle of the seventeenth century, the object of legislating on food was professedly the welfare of the poor, who, in those times, always suffered severely when the supply was limited; but, in 1663, a statute was passed which was avowedly for the protection of another interest in the community. The preamble sets forth that "the surest and effectualest means of promoting and advancing any trade, occupation, or mystery, being by rendering it profitable to the users thereof," and that, large quantities of land being waste, which might be profitably cultivated if sufficient encouragement were given for the cost and labour on the same, it was enacted with a view of encouraging the application of capital and labour to waste lands, that, after September, 1663, when wheat did not exceed 48*s.* per quarter at the places and havens of shipment, the export duty should be only 5*s.* 4*d.* per quarter. When wheat was at the above price per quarter, "then it shall be lawful for all and every person (not forestalling nor selling the same in the open market within three months after the buying thereof) to buy in open market, and to keep in his or their granaries or houses, and to sell again, such corn and grain," any statute to the contrary notwithstanding.‡ The latter part of this statute may be regarded as indicating a more liberal view than others passed since the 5 and 6 Edward VI., c. 14.

In 1670 further progress was made in the protective system, and when the price of wheat was at or under 53*s.* 4*d.* per quarter, the duty on importation was fixed at 16*s.* per quarter; above 53*s.* 4*d.*, and under 80*s.*, the duty was 8*s.*: if the price exceeded the latter rate, then a merely nominal duty was to be paid.§ Exportation was freely allowed, the customs' duty being 1*s.* per quarter. The old system of fixing the average price of corn and grain was still acted upon; but the quickened life of commerce required some new arrangement, and, in 1685, this was effected by a statute, which commences by noticing that "no provision was made by the said act [22 Charles II., c. 13] for ascertaining and determining prices, by reason whereof several great quantities of corn and grain have been imported without paying the respective duties." The statute then enacts that justices of the peace, in counties wherein foreign corn might be imported, may, at quarter-sessions, by the oaths of two persons duly qualified, that is, possessed of freehold estates of the annual value of 20*l.*, or leasehold estates of

* 3 Car. I., c. 5. † 12 Car. II., c. 4. ‡ 15 Car. II., c. 7.
§ 22 Car. II., c. 13.

50*l.*, and not being corn-dealers, and by such other means as they shall see fit, determine the market price of middling English corn, which is to be certified on oath, hung up in some public place, and sent to the chief officer at the custom-house in each district.

II. *From* 1688 *to* 1773.—In 1689 the statute was passed which allowed a bounty on exportation.* Its object, as expressed in the title, was "for encouraging the exportation of corn;" and the preamble declared that it had been "found by experience that the exportation of corn and grain into foreign countries, when the price thereof is at a low rate in this kingdom, hath been a great advantage, not only to the owners of land, but to the traders of this kingdom in general." It was accordingly enacted that, when the price of wheat was at or under 48*s.* per quarter, a bounty of 5*s.* was to be paid on the exportation of every quarter. The year before this act became law, the price of the quarter, of nine bushels, of the best wheat at Windsor market† was only 25*s.* 2*d.*, the lowest price at which it had been since 1595; and any plan of raising prices to the level which had been attained during the sixty preceding years was, of course, highly popular with the landed interest: it was a bribe which enabled William III. to impose the land-tax. In 1698-9, on the supposition that the quantity of corn in the kingdom might not be sufficient for the use and service of the people at home, should there be too great an exportation, the bounty was discontinued from the 9th of February, 1699, to 29th of September, 1700; nevertheless, in order that no fears might be excited by this temporary suspension, the preamble contained an acknowledgment that the statute, granting the bounty, "was grounded upon the highest wisdom and prudence, and has succeeded, to the greatest benefit and advantage to the nation by the greatest encouragement of tillage."‡

If we may believe the writers on agriculture of the last century, the first sixty years after 1700 was a period of legislative perfection in agricultural matters. The producer of grain had not only the supply of the home market almost exclusively in his own hands, but the consumers in other countries were bribed to receive the surplus. "From 1697 to 1773 the total excess of exports was 30,968,366 quarters, upon which export bounties, amounting to 6,237,176*l.* were paid out of the public revenue."§ Arthur Young praises the system of exporting with a bounty as having been of "infinite national importance;"‖ and contends that the bounty ought to have been higher in 1773 than when it was first imposed.

In 1750 the sum of 324,176*l.* was paid in bounties on corn. Agriculture, thus stimulated, at length outstripped the demands of the home market. In the five consecutive years in which the

* 1 William and Mary, c. 12.

† Windsor market is constantly referred to as furnishing the most authentic record of the price of wheat, because the prices in that market have been noted, for a long series of years, by the Registrar of Eton College, for the regulation of the corn rents of that foundation.

‡ 11 Will. III. c. 1.

§ Report of Commons on Agric. Distress, 1821.

‖ Political Arithmetic, 1774.

excess of exports was greatest, from 1748 to 1752 inclusive, the average annual importations were only 134 quarters, while the exportations were, on the average, 643,961 annually.

The effect of the bounty on prices was not so favourable to the producer as might have been supposed. During the first sixty years of the century, prices were far from maintaining a uniform range, though importation was nearly prohibited, and a foreign market was at hand which might be supposed, under the system of bounties, capable of taking off at all times such a surplus as would permit the home market to be supplied in such a proportion, taking one year with another, as would have limited the fluctuation to a very confined scale. But such was not the case:*—

		s.	*d.*		Qrs.
In 1728	the price was	48	5½	with an excess of import of	70,757
1732	„	23	8½	with an excess of export of	202,058
1740	„	45	0½	„ „	46,822
1743	„	22	1	„ „	371,429
1750	„	28	10¾	„ „	947,323
1757	„	53	4	„ „	130,017
1761	„	26	10¾	„ „	441,956

In some years, when our own harvest had not been abundant, the bounty was suspended; and, on the other hand, when the crops on the Continent were large, the offer of a bounty lost much of its value. At all times, the foreign purchaser had obtained a greater or less amount of this bonus on exportation.

At the beginning of the century, the population of England and Wales amounted to 5,134,516; and, in 1770, it had increased upwards of two millions, being 7,227,586. This alone, by extending the home market, disturbed the operation of the system of corn-laws which had been established in 1688. Up to 1756 they had scarcely been interrupted in their operation, but a deficient harvest in that year occasioned their suspension, and, in 1766, exportation was also prohibited. "From the year 1766 to the present time (1773) we have had a perpetual shifting policy, in which nothing has been permanent. . . . Every year has produced a temporary act suspending the operation of those laws which which had proved of such excellent utility."† Such were the views of writers on the interests of agriculture at that time; who did not give sufficient weight to the fact that the suspensions complained of were indications of the breaking-up of their favourite systems in consequence of the increase of population.

In the course of this period, several acts were passed for ascertaining, with greater fidelity and frequency, the average prices of corn and grain. One of these, passed in 1729, was entitled "An Act to ascertain the Customs payable for Corn and Grain imported; for better ascertaining the price and quantity for which a bounty is payable upon exportation," &c. The preamble states that the justices of the peace had "neglected to settle the price of corn at their quarter-sessions after Michaelmas last, and to return certificates thereof to the chief officer and collector of the customs,

* Evidence of W. Tooke, Esq., Commons' Committee.
† Arthur Young's 'Political Arithmetic,' 1774.

residing in the respective ports where the said corn or grain has been or may be imported; by means whereof the said officers were at a loss how to charge the customs and duty due for such corn; which has been, and may be, a great loss to the revenue, and a detriment to the farmers and fair traders."

To remedy the negligence of the gentry, it was provided that, in case of the justices not settling the average prices, the collectors of customs were empowered to do so.* In 1732 an attempt was again made to provide better machinery for obtaining the average prices. The plan which had been acted upon since the 1 James II. was acknowledged to be defective; and, therefore, "for the better ascertaining the common prices of middling English corn and grain, and for preventing the fraudulent importation of corn and grain," it was provided that, after 1st June, 1732, the justices of the peace, in counties which contain ports of importation, are to charge the grand-jury at quarter-sessions to make inquiry and presentment upon oath of the common market prices. The presentment was to be made in open court, and the prices were to be certified to the officers at the ports specified.† The averages were never taken oftener than four times a-year. In 1766 the authorities of the city of London were empowered to settle the price of middling English corn and grain in January and July, in addition to the former periods of April and October.‡ It was not until 1770 that returns of prices were directed to be made weekly. In that year an act was passed, on the ground that a "register of the prices at which corn is sold in the several counties of Great Britain will be of public and general advantage." The act provides that, after the 29th of September, 1770, and so every succeeding year, at the general quarter-sessions, to be held next after Sept. 29th, the justices of the peace are to order returns to be made weekly of the prices of British corn and grain from such towns in each county as they think proper; the number of towns selected in each county not being more than six nor less than two. The act empowered the Treasury to appoint a receiver of corn returns, who was to publish an abstract of the weekly returns in the 'London Gazette,' and four times a-year to certify to the clerks of the peace the prices which were respectively prevalent in each county.

The publication of the averages weekly was a most beneficial innovation. The 'London Gazette' of 24th November, 1770, contains the first abstract of the weekly returns. It was objected to this useful change, that "it dissatisfies the farmers in the eastern counties, upon their finding that corn is so much cheaper there than in the west of England; the consequence of which is, inducing them to raise the price." The publication of the returns was the very thing to benefit a cheap county by attracting purchasers; but, at that time, greater inequality of price prevailed in articles of a bulky nature, in different parts of England, than at the present moment, when canals, roads, and good markets, have levelled the differences which naturally prevailed in their absence. Arthur Young speaks in the most favourable terms of the advantages of

* 2 Geo. II., c. 18. † 5 Geo. II., c. 1[2]. ‡ 6 Geo. III., c.

publicity secured by this act. He says—"It has, at one stroke, overturned the lying reports which used to be circulated of the high price of corn. When the world was ignorant of the truth, every man quoted that price which was convenient to his argument. . . . Till this act was passed, we never fairly knew what was the price of corn, and every measure of the corn-trade was transacted in the dark."*

The act of the greatest importance, as affecting the principles of the corn-trade, was passed in 1772. The restraints imposed by the statutes of Edward VI. and Elizabeth, and which subsequent legislation had only mitigated, were taken off, and their injurious tendency was openly exposed as follows:—"Whereas, it has been found by experience that the restraints laid by several statutes upon the dealing in corn, meal, flour, cattle, and other sundry sorts of victual, by preventing a free trade in the said commodities, have a tendency to discourage the growth and enhance the price of the same, which statutes, put into execution, would bring great distress on the inhabitants of many parts of the kingdom;"† and the act then repeals them.

III. *From* 1773 *to* 1791.—In the first 50 years of the century the increase of population in England and Wales had not been much above 17 per cent., or very little more than the rate of increase which has occurred within the short space of ten years, during the current century. Unless occasionally disturbed by the effects of an unfavourable season, all operations in the corn trade were generally marked by great uniformity, and for a considerable time no necessity was felt for any change in the laws by which they were regulated. But in the 20 years from 1750 to 1770 elements were actively developed which rendered the past system inapplicable; for while, in the 50 years ending 1750, population had only increased 17 per cent., it had, in the 20 years ending 1770, more than doubled its rate of acceleration, the increase in this period being 19 per cent. In 1773 the quantity of wheat grown in Great Britain was estimated at 4,000,000 quarters, and as agriculture had not made that advancement which corresponded with the progress of the population, a deficient harvest had latterly compelled the legislature to suspend the bounties on corn, and considerable quantities of foreign wheat were imported.

In 1773, then, a new law was passed for the regulation of the trade, based on the new circumstances which had arisen chiefly within the preceding 20 years. It is intitled "An Act to regulate the importation and exportation of corn." After an acknowledgment, that previous laws had greatly tended to the advancement of tillage and navigation, the preamble states, that, on account of the small supplies on hand and scanty crops, it had been frequently necessary to suspend the operation of the laws; and that a permanent law on the corn trade "would afford encouragement to the farmer, be the means of increasing the growth of that necessary commodity, and, of affording a cheaper and more constant supply to the poor." It was accordingly enacted, that after January 1, 1774,

* Arthur Young's 'Political Arithmetic,' 1774.

† 12 Geo. III., c. 71.

whenever the price of middling British wheat, at ports of importation, shall be at or above 48*s.* per quarter, a duty of only 6*d.* per quarter is to be taken on all foreign wheat during its continuance at the above price. When the price of wheat per quarter was at or above 44*s.* exportation was to cease. The carrying of British grain coastwise ceased also. The bounty of 5*s.* per quarter on wheat exported was not paid unless the price in the port of export was under 44*s.* per quarter. Under this act corn and grain might be shipped to Ireland when exportation was prohibited in that country. * The average prices were still fixed at each quarter sessions, and could not be altered during the intervening period. But in the following year this part of the act was amended, and after June 1st, 1774, exportation was regulated by the price on the market-day preceding the shipment; thus adopting the real average price at the time, instead of acting upon the average which existed three months before. † Six years afterwards, in the session 1780-1, a further improvement was made, and on the ground that the act 14 Geo. III. c. 64, was "found by experience to be inadequate to the salutary ends thereby intended," it was repealed, so far as concerned London, Kent, and Essex, and it was enacted, that the common prices of English corn for the port of London and the ports of the above counties, should be determined by the averages taken at the London Corn Exchange. After December 27th, 1781, the factors of the Corn Exchange were to make a weekly return to the inspector, containing an account of the quantity of corn and grain sold by each, and adding the name of the purchaser in each case. The inspector was then to compute the aggregate quantity of each sort of grain and the price for which it had been sold, and then to strike the average price of each, and to publish a transcript of such account weekly in the 'London Gazette.' The weekly average was to regulate the exportation; but the importation of foreign corn and grain was regulated in another manner. Previous to the London sessions the inspector was to compute the averages for the preceding quarter, a certified copy of which was to be presented to the Lord Mayor in open court, and published afterwards in the 'London Gazette;' and such quarterly or sessional averages regulated the importation until new averages were settled at the next ensuing sessions.‡ So far, however, only the corn trade of the metropolis and two adjoining counties was regulated by this act; but in the session of 1788-9 new regulations were framed, which applied equally to all parts of the kingdom, which was divided into 12 districts, in each of which the justices of the peace were to select a number of the principal market towns, in which, and at the seaports, the price of corn was to be ascertained for each district. The justices appointed persons to make returns of the weekly prices to the receiver in London, who, on the 1st of each of the following months—February, May, August, and November, was to compute from the returns of the six preceding weeks the average

* 13 Geo. III. c. 43. † 14 Geo. III. c. 64. ‡ 21 Geo. III. c. 50.

price of each description of British corn and grain (with the exception of oats, the averages of which were to be computed on the returns of the 12 preceding weeks). The aggregate average of the six weeks (and for oats of the 12 weeks) was to be transmitted to the principal officer of the Customs in each district, and was to regulate the importation at each port of the said district. The export trade was still regulated by the weekly averages.* Under this act each of the 12 maritime districts was treated as distinct in itself, and counties on one side of the kingdom might be exporting their surplus produce to a foreign market, while those on the other side were under the necessity of importing.

IV. *From* 1791 *to* 1804. No alteration in the scale of duties on importation had been made by the act of 1788-9, although the effect of the act of 1773 had for some time been decried as having rendered England an importing instead of an exporting country for corn. By the landed interest the act of 1773 was regarded as by far too liberal. In the ten years ending 1769, the excess of wheat exported over the quantity imported was 1,384,561 quarters, while in the next ten years the excess was on the side of the imports, to the extent of 431,566 quarters. From 1760 to 1780, the number of acres inclosed under local acts was 1,912,350, but in the ten years ending 1789, so far from half the preceding number of acres being inclosed, the proportion did not amount to one-fourth, or 450,180 acres. The average price of grain also continued extremely uniform during each of the decimal periods from 1760 to 1790, being 45*s.* 10*d.*, 45*s.*, and 45*s.* 9*d.*; while the population had made more rapid progress than at any previous period, and manufactures were beginning to develop a power and importance which they had not hitherto been in circumstances to attain.

These facts contributed to render the agriculturists dissatisfied with the act of 1773, which admitted wheat at a duty of only 6*d.* per quarter, when prices were at 48*s.* per quarter; and seeing that the average prices for the whole term of seventeen years during which it had been in operation varied only from 2*s.* 3*d.* to 2*s.* below the price at which free importation commenced, they asked for more adequate protection, and the act of 1790-1 was the consequence. This measure is entitled, "An Act for regulating the importation and exportation of corn, and the payment of the duty on foreign corn imported, and of the bounty on British corn exported." It consolidated, amended, and repealed a number of old statutes relating to the corn-trade; amongst the latter, the 15th Charles II., c. 7, which prohibited buying corn to sell again, and laying up corn in warehouses, offences which had of course for some time ceased to be practically recognised as such. The law of 1790-1 enacts that after November 15th, 1791, the bounty of 5*s.* per quarter should be paid when wheat was under 44*s.*, and that, when wheat was at or above 46*s.*, exportation was to cease. The new scale of import-duties was as follows:—Wheat under 50*s.* per quarter, the "high duty" of 24*s.* 3*d.* was payable; at 50*s.* but under 54*s.*, the "first low duty" of 2*s.* 6*d.*; at or above 54*s.* the "second low duty" of 6*d.* was payable. The protecting price

* 29 Geo. II. c. 58.

was thus raised from 48*s.* to 54*s.* Ireland at that time stood on the same footing as the British possessions in America, and the same scale of duties applied to their exports at a lower range of price. An important provision of this act consisted in the permission to bond foreign corn and grain in the King's warehouses, the duty only to be payable when taken out for home consumption. The object of this beneficial clause is stated as follows:—"To promote and extend the commerce of the merchants of this kingdom in foreign corn, and to provide stores which may always be ready for the relief of his Majesty's subjects in times of dearth." But many provisions of the act interfered with trade to a vexatious and injurious extent. When foreign exportation was not allowed at any particular port, not even home produce could be carried thence coastwise, even to a port at which exportation was at the time taking place. Foreign vessels might however change their destination to any port where importation was permitted, if on their arrival at that for which their cargo had been shipped, importation had ceased to be allowed. The country was still divided into so many independent sections, and this regulation was introduced into Scotland, which was divided into four districts. Some slight changes were made in the mode of ascertaining the average prices of corn and grain, and other parts of the country besides the maritime districts were to be selected, from which returns of the prices were to be collected, "in order that a register thereof may be formed and published for the information and benefit of his Majesty's subjects." But the prices thus obtained did not enter into the computations for striking the averages which governed exportation and importation. For the purposes of exportation, the weekly averages of each district were cited, and for importation, the average of the six weeks preceding the 15th of February, May, August, and November. Thus the one varied from week to week, and the latter was only changed four times a-year. If only two-thirds of the places in any district made a return, the receiver was empowered to strike the average, notwithstanding the neglect; and if less than this proportion of returns was received, he had the power of making up the average of that district from the returns of other districts.

The act of 1790-1, though originating in a desire to keep possession of the home-market, and the fear of being dependent upon foreign countries, was not productive of the effects which had been anticipated from its operation. In the preceding period, the average decennial price of wheat was below the price at which free importation commenced to so small an extent that the ports were still open as frequently as before, and raising the free import price from 48*s.* to 54*s.* was even less successful in keeping the ports closed than the lower sum had been; for from 1790 to 1791 the average price was 55*s.* 11*d.*, being only 1*s.* 11*d.* higher than the point at which foreign wheat was admissible. The excess of imports during these ten years was greater than ever, amounting to 3,216,096 quarters, though the increased dependence on the foreign market was occasioned to a considerable extent by several untoward seasons. From 1792 to

1803, both inclusive, 12,553,587 quarters of foreign grain were imported, and 2,693,461 cwts. of flour. The act therefore having disappointed the expectations of the landed interests, and the country appearing to them to be more dependent on foreign countries than before, a new measure was loudly called for, and which, in order to carry out the principle of the former one, had become inevitable in consequence of the changes in the currency.

V. *From* 1804 *to* 1814. On the 13th of April, 1804, the Chancellor of the Exchequer moved for the appointment of a select committee to inquire into the principle and operation of the Corn Regulation Act of 1791, and to determine whether the scale which it fixed for the regulation of imports and exports was now applicable. On the 14th of the ensuing month the committee presented their report, in which they stated that the act alluded to required "very material alteration," and slightly hinting rather than entering upon the grounds of this opinion. On account of this defect, the report was again referred to the committee, who, on the 14th of June, presented a second report, in which their convictions as to the necessity of some new legislative measure on the trade in corn are thus stated:—"It appears to your Committee that the price of corn from 1791 to the harvest of 1803 has been very irregular; but, upon an average, increased in a great degree by the years of scarcity, has in general yielded a fair profit to the grower. The casual high prices, however, have had the effect of stimulating industry, and bringing into culture large tracts of waste land, which, combined with the two last productive seasons, has occasioned such a depression in the value of grain as it is feared will greatly tend to the discouragement of agriculture, unless maintained by the support of Parliament." It would not be easy to estimate the unfortunate consequences resulting from the principle contained in the last sentence, a dependence upon which has ruined thousands, and even now does mischief. The Committee of 1804 founded their recommendations on "a comparative view of the price of labour, and of the unavoidable expenses incident to the farmer in the year 1791, and to the farmer at the present time." A sufficient supply for home consumption could not be obtained without having a surplus in plentiful years, and to provide a ready sale for that surplus, the grower ought to have a bounty on exportation, if requisite, in order that his profits might be adequate to the skill, capital, and industry which were required in his pursuits. Such were the views of the Committee, and they prevailed also in the legislature, where a Bill to give effect to them was introduced on the 20th of June. On its passage through the Lords, a clause was struck out, which included the prices in Ireland as necessary in the aggregate returns from which the averages were to be ascertained; and on the return of the Bill to the Commons it was rejected on account of some formality connected with this proceeding. A new Bill, omitting the clause objected to, was immediately introduced, and which became law. Earl Stanhope, in the debates on the Bill, was anxious for the establishment of public granaries; and one of the

Bishops (St. Asaph) joined him in this exploded notion, which both Adam Smith and Burke had long before exposed. Earl Stanhope moved a resolution which had for its object the relief of the farmers for ever from the payment of all direct taxes, parish and county rates, cesses, dues, tithes, and parliamentary impositions, with a view of rendering corn cheap!

The scale for the admission of foreign corn established by the act of 1804 was as follows:—Wheat under 63*s.* per quarter, the "high duty" of 24*s.* 3*d.* payable; at 63*s.* and under 66*s.*, the "first low duty;" and at or above 66*s.*, the "second low duty," which amounted only to 6*d.* The protecting price was thus raised from 54*s.*, at which it stood in the act of 1790-1, to 66*s.*—an increase of 12*s.* The bounty of 5*s.* on exportation was paid when the average price of wheat was at or under 48*s.*; and when the average rose to 54*s.*, exportation was prohibited.

An important change was made in the system regulating the averages. The twelve maritime districts of England, and the four similar districts of Scotland, were no longer regarded as sixteen separate sections, each of which was regulated by the prices prevalent within its separate limits; but for England, the averages, taken as before, were computed for the whole of the twelve districts at once, and the average price obtained from the computation regulated importation and exportation at sea-ports situate in any part of the country; and for Scotland, the same plan was pursued. The six weeks' averages, struck quarterly, regulated the import duty, and the weekly average the exports.* In 1805 the operations of the foreign trade in corn, both in England and Scotland, were governed by one average price.† This was also an improvement. The inequalities of price in Scotland, occasioned partly by the physical circumstances of the country, had occasioned the ports to be shut when, in many populous places, the market price was higher than the importation price.

In 1806 was passed an Act of the greatest importance in respect to the supply of food, entitled "An Act to permit the free interchange of every species of grain between Great Britain and Ireland."‡ Ireland had been previously treated as a colony, but this Act placed her on an equality with other parts of the kingdom, and, for one description of grain, has rendered Ireland the granary of England. From 1799 to 1806 the quantity of wheat imported from Ireland into Great Britain was 44,877 quarters, and 222,030 quarters of oats and oatmeal; while from 1806 to 1827, the annual imports from the same country were 382,353 quarters of wheat and 1,087,314 quarters of oats. From 1800 to 1819 (a period of twenty years, during which the average price in England was 85*s.* 5*d.*), the imports of wheat from Ireland amounted to 2,096,768 quarters, while in the six years from 1820 to 1825 inclusive, the average price for those years being 57*s.* 3*d.*, the imports were greater than for the preceding twenty years, amounting to 2,589,945 quarters. Many corresponding branches of industry have been stimulated by the Act of 1806, which are calculated to promote the welfare of the sister kingdom. In 1792 there

* 44 Geo. III., c. 109. † 45 Geo. III., c. 86. ‡ 46 Geo. III., c. 97.

was but one flour-mill in the north of Ireland, and the habit of resorting to bread was practically discouraged by the difficulty and expense of obtaining flour; but the increase of milling power in Ireland has lately made extraordinary progress, and has attracted large capitals and enterprise. Malting, brewing, and distilling, and the trade in butter, pork, and fat cattle, have also been carried on on an enlarged scale, and the agricultural exports now amount in value to above 11,000,000*l.* a-year, being more than double their amount ten years ago. This Act may therefore fairly be looked upon as having established a principle, the effect of which on the trading interests of the empire has been of the most important character.

From 1804 to 1814 the average price of wheat was nearly 90*s.* per quarter. In 1804, when the act was passed fixing the free import price at 66*s.*, the average for the year was 60*s.*; but in three of the following ten years the crops had been deficient, and this, with the war in which we were engaged and the state of the currency, raised prices to a height which rendered 66*s.* no protection whatever to the growers, who had imagined it would give them the complete supply of the home market. In 1810 the imports of wheat amounted to 1,491,341 quarters, and were considerable in every year of the period, with the exception of 1808.

VI. *From* 1814 *to* 1828.—On the termination of the continental war it was naturally expected that commercial intercourse would be restored to something like its former channels,—a circumstance which could scarcely occur without some pressure upon the interests which had grown up in the interval. When the ports of Great Britain should be open to the vessels of different countries with which we had been at war, it was feared by the landed interests that our markets might be glutted with supplies of foreign corn, and preparations were made in the legislature for regulating that branch of trade. On the 10th of June, 1814, a committee of the House of Lords on the corn trade was appointed, which made a brief report on the 27th, when the Committee was instructed to examine witnesses in support of allegations contained in petitions presented to the House on the subject. The principal feature of the second report was the recommendation of the Committee, that so long as the average price of wheat was under 80*s.* the ports should be completely closed against supplies from other countries. The prohibitive price suggested by the agricultural witnesses examined by the Committee, varied from 72*s* to 96*s.* Out of 16 witnesses belonging to this class only four were in favour of the prohibition price being below 80*s.* per quarter. This second report was presented on the 25th July; but the session concluded without the introduction of any legislative measure. An act was, however, passed, repealing the bounty on exportation,* which had been allowed under various circumstances since 1688, though, from 1792, the high prices which prevailed in the home market rendered it inoperative. By the new act exportation might take place at any time without reference to prevailing prices.

* 54 Geo. III. c. 69.

The average price of wheat for the year 1814 was about 34*s.* per quarter lower than the average of the preceding year, though the harvest had not been an abundant one. In the month of February the average price was under 60*s.*, though before harvest it might rise to 66*s.*, when the ports would be open and prices again be depressed. Early in the session of 1815, therefore, a bill was brought in, giving effect to the recommendation of the Committee of the previous year, and fixing 80s. as the lowest point at which importation could take place. The measure produced great excitement throughout the country, particularly in the manufacturing districts and in all the large towns, where it was believed that such a high prohibitory rate would limit the supply of food to a much greater extent than was compatible with the welfare of the country or than the interests of agriculture required. The divisions which took place in different stages of the bill through Parliament showed that it was supported by a large and most powerful party in the Legislature. In the House of Commons, at an early period, a division took place in favour of 72*s.* being substituted for 80*s.*, with the following result:—For the motion 35; against it 154,—majority 119. On the 3rd of March an attempt was made to throw out the bill:—For the motion 56; against it 218; majority 162. On the 6th of March the vicinity of the House of Commons was thronged by an excited multitude, and several members were stopped, some of them roughly handled, and they were questioned by the mob as to the vote which they intended to give. Ultimately the military were called out, and, with the civil force, kept the streets clear. This evening the gallery of the House of Commons was closed. An attempt was made to render the bill more favourable by rendering 74*s.* instead of 80*s.* the pivot price; and the motion was supported by 77 against 208, giving a majority of 131 to the thorough advocates of the landed interest. On the 8th of May, on bringing up the report, the opponents of the bill again exerted themselves, though with little hope of success, to throw it out. An amendment being moved, that it be read that day six months, there voted 50 in its favour, and 168 against it; majority 118. A final attempt was made to substitute a lower rate than 80*s.*, leaving it to the House to determine the exact price at which prohibition ceased, but only 78 voted for the motion, and 184 in favour of the measure as originally proposed. It was, in fact, useless to contest the point against its numerous supporters, and when, on the 10th of March, an amendment was moved, on the third reading, that the bill be thrown out, it was only supported by 77 against 245; majority 168; though the opponents of the measure had mustered in their greatest strength, while the other party felt secure in the power of numbers. On the 20th of March the bill passed the Lords by a majority of 107:—128 contents, and 21 non-contents. An admirable protest, drawn up by Lord Grenville, expressed the views of the leaders of the minority. On the 23rd of March the bill received the Royal assent.

Until the average price of wheat rose to 80*s.* the ports were

effectually closed. Colonial wheat was admitted when the average prices reached 67*s.* per quarter. Such was the leading feature of the new act.* But the mode in which the average prices were determined greatly increased its stringency. A new average was struck quarterly, on the 15th of February, May, August, and November, from the aggregate prices of the six preceding weeks; but it was provided, that if, during the six weeks subsequent to any of these dates the average prices, which might be at 80*s.*, fell below that price, no supplies should be admitted for home consumption from any ports between the rivers Eyder and the Bidassoa,—that is from Denmark to Spain inclusive.

It was the general expectation of the farmers that the act of 1815 would maintain the prices of their produce at a rate somewhat under that of the scale which the Legislature had adopted; and which, for wheat, was 80*s.*; barley 40*s.*; oats 27*s.*; and rye, beans, and peas, 53*s.* They entered into contracts with their landlords and others with this conviction. But as in every measure passed since 1770 prices had risen above the scale which had been fixed as the prohibitive rate, it happened that they now sunk below it to an extent which no class of men had anticipated. In 1816, 1817, and 1818, three deficient harvests occurred, that in the former year being below an average crop, to a greater extent than in any year since the periods of scarcity at the commencement of the century. Prices rose above the rate at which foreign supplies were admitted, and in two of these years above 2,500,000 quarters of wheat were imported. From January 1816, to June 1817, prices rose from 53*s.* 1*d.* to 112*s.* 7*d.* From June to September 1817, they fell from 112*s.* 7*d.* to 74*s.*; but three years afterwards, in 1821 and 1822, the agriculturists endured the severest season of distress which had been experienced by that body in modern times, and the engagements which they had been induced to make under the fallacious hopes excited by the last corn act, occasioned them to be swept from the land by thousands. In the week ending December 21st, 1822, the average prices of corn and grain were as follow:—

	Wheat.		Barley.		Oats.		Rye.		Beans.		Pease.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
	38	8	29	4	18	9	23	6	28	10	29	4
Being	41	4	10	8	8	3	29	6	24	2	23	8

lower than the scale which was framed for the farmer's protection. The highest price of wheat for any one week in 1822 was 50*s.* 7*d.*

The cry of distress was heard from every part of the country. In 1820, the number of agricultural petitions claiming the commiseration of the Legislature was 159; in 1821, 187; and in 1822, 129. Committees of the House of Commons were appointed to inquire into the condition of agriculture, in the two latter years. In the spring of 1822, numerous projects were offered to the consideration of Parliament for the alleviation of the general distress of the agricultural class. Sir Thomas Lethbridge proposed a perma-

* 55 Geo. III. c. 26.

nent duty on foreign wheat of 40*s.* per quarter, and he claimed protection for every description of produce raised from British soil. Mr. Benett's plan was a permanent duty of 24*s.* per quarter after the averages had again reached 80*s.*, and a drawback of 18*s.* per quarter to be allowed on the exportation of wheat of marketable quality. Mr. Curwen suggested to the House that when the average price of wheat reached 80*s.* the ports should be opened for the admission of 400,000 quarters of foreign wheat, at a duty of 10*s.*; and if, six weeks after this quantity had been admitted, the average price should still continue above 80*s.*, then to allow of the importation of an additional 400,000 quarters, at a duty of 5*s.* The late Mr. Ricardo moved resolutions to the effect that when the averages rose to 65*s.* per quarter, all the foreign wheat then in bond should be liberated at a duty of 15*s.*; and that afterwards, whenever the averages exceeded 70*s.*, the trade in wheat to be free, at a permanent duty of 20*s.*; one year from that time the duty to be reduced to 19*s.*, and a similar reduction to be made each year until the duty was 10*s.*, at which it should be permanently fixed; at the same time allowing a drawback or bounty on exportation of 7*s.* per quarter.

The Select Committee of the House of Commons had a still greater variety of projects offered for its consideration. One plan proposed to the Committee of 1821, was to withdraw the permission to warehouse foreign wheat or any other foreign grain in England; and the Committee felt itself under the necessity of arguing this point in their report, by showing the pernicious effect of such a regulation on the shipping interest, and on the country generally. The Committee of 1822 had under its serious consideration two plans for the alleviation of agricultural distress:—1. The application of 1,000,000*l.* in Exchequer bills, to be employed through the agency of Government in buying up a certain quantity of British wheat to be placed in store. 2. Advances to be made to individuals on produce deposited in warehouses, to prevent them coming into the market simultaneously. The first plan was rejected by the Committee, but they considered the second was feasible, and were of opinion, that "The sum of 1,000,000*l.* so employed (in loans on stock) would probably be fully adequate to give a temporary check to the excess which is continually poured into the overstocked market." In the House of Lords, the Marquis of Londonderry supported this view of the Committee. On the 29th of April, he moved that 1,000,000*l.* be advanced in Exchequer bills, when the average price of wheat was under 60*s.*

In nine out of the sixteen years since 1822, and including 1837, the average price of wheat for the year has been under 60*s.* having been for one year under 40*s.*; but the interests of agriculture, having adapted themselves to new circumstances, we have heard none of those complaints of intense distress which were raised when the average price was considerably higher. The resolutions moved by the late Mr. Huskisson, on the 29th of April, during the agricultural panic of 1822, mark the rational and consistent views of that statesman. They were to the following

effect:—That in February, 1819, the average price of wheat was 78*s.* 7*d.* per quarter, and the total quantity of wheat imported during the year was only 300,416 quarters. In 1820, the average price of wheat was 65*s.* 10*d.*, and the foreign supplies of wheat arriving in the port of London were under 400,000 quarters; and in 1821 the average price was still lower, being 54*s.* 5*d.*, and the foreign supplies in the same port were under 500,000 quarters for the year. In January, February, and March, 1822, the average price was lower still, being 47*s.* 9*d.*, and the ports were closed. Mr. Huskisson's second resolution was to the effect, that, "during the whole of this period of three years, the supply in all the principal markets of the United Kingdom appears uniformly to have exceeded the demand, notwithstanding the wants of an increasing population, and other circumstances which have probably produced an increased consumption." The third resolution showed—"That the excess of the supply above the demand must have arisen either from an extent of corn-tillage more than commensurate to the average consumption of the country, or from a succession of abundant harvests upon the same extent of tillage, or from the coincident effect of both these causes." To prevent the alternate evils of scarcity and redundance, which were aggravated by the Act of 1815, Mr. Huskisson proposed that the trade should be permanently free at a duty of 15*s.* per quarter, when the averages were under 80*s.*; and when above 80*s.*, the duty to be 5*s.*; and above 85*s.*, a nominal duty of 1*s.* only to be imposed.

The fluctuations in price under the corn law of 1815 were as extraordinary as they were unexpected by the landed interests. The following table shows the highest and lowest prices from 1815 to 1822—

Years.	Highest.		Lowest.		Variation per Cent.
	s.	*d.*	*s.*	*d.*	
1815	70	3	54	8	28½
1816	103	11	53	1	95¾
1817	112	7	74	0	52
1818	91	3	78	1	16¾
1819	78	11	64	2	23
1820	37	9	53	11	36¾
1821	70	7	46	2	53
1822	50	7	38	1	32¾
From 1815 to 1822	112	7	38	1	199½

The utter inefficacy of the Act of 1815 to secure the objects for which it had been enacted having been fully proved, a new Act received the Royal assent on the 15th July, 1822, entitled, "An Act to amend the laws relating to the importation of corn." It alters and amends the 55 George III., c. 26 (the Act of 1815); and enacts that "as soon as foreign wheat shall have been admitted for home consumption under the provisions of the said Act, the scale of prices at which the home consumption of foreign corn, meal, or flour is permitted by the said Act shall cease and determine." The new scale was as follows:—Wheat at or above 70*s.*, duty 12*s.*; and for the first three months of the ports being open, an additional

duty of 5*s.* per quarter. Above 70*s.* and under 80*s.*, the "first low duty" of 5*s.*: above 80*s.* and under 85*s.*, the "second low duty" of 1*s.** This Act did not come into operation, as prices never reached 80*s.* The home-grower had the monopoly of the home-market, and the ports remained closed for several years, showing that every law during the preceding fifty years had been based on expectations which had proved deceitful. The highest and lowest prices in the four years subsequent to 1822 were as follow:—

Years.	Highest.		Lowest.		Variation per Cent.
	s.	*d.*	*s.*	*d.*	
1823	62	5	39	11	56¼
1824	67	7	53	11	25¼
1825	69	8	61	5	13½
1826	61	4	54	1	13½

In 1821 a new Act was passed relative to the averages. Instead of maritime districts being recognised, 148 towns were named, for which the magistrates were to appoint inspectors to make a return of the weekly purchases.† The averages for regulating importation were, however, as before, determined quarterly on a computation of the averages of the six weeks preceding the 15th of February, May, August, and November.

In 1825 the trade in corn and grain to the British colonies in North America was placed on a more favourable footing. Instead of the scale by which the importation of wheat was regulated by the 55 Geo. III., c. 26, and 3 and 4 Geo. IV., c. 60, a permanent duty of 5*s.* per quarter was imposed.‡ The trade was before subject to all the inconstancies of fluctuating markets. The regulations under which the timber trade is carried on, and which favours these colonies, has to a considerable extent directed their industry into other channels than those of agriculture; and in the twenty-five years ending 1825, the total quantity of wheat which they exported to England was only 642,849 quarters, or less than 26,000 quarters annually. During a considerable portion of this period commerce was interrupted by the war, but our internal regulations have had quite as powerful an effect in diminishing our resources in this quarter. The exports of wheat from the United States to this country, from 1800 to 1825, amounted to 1,928,203 quarters; but during one or two seasons, recently, the United States, instead of having a surplus supply of wheat, have been under the necessity of importing that grain, the industry of the country having been strongly diverted from agriculture to manufactures.

In 1825 was also passed another Act, which showed the necessity of a more elastic corn law. It was entitled "An Act to allow, until the 15th of August, 1825, the entry of warehoused corn, grain and wheaten flour for home consumption, on payment of duty;" that is, at a duty lower than that payable under the previous law. The Act provided that foreign corn secured in warehouse before May 13th, 1822, and wheaten flour warehoused under 5 Geo. IV., c. 70, might be taken out of bond under the following regulations:— Between the 15th June and 15th July, half the quantity ware-

* 3 Geo. IV., c. 60. † 1 and 2 Geo. IV., c. 87. ‡ 6 Geo. IV., c. 64.

housed might be liberated; and the remainder between the 15th July and 15th August, at a duty of 10*s.** Other descriptions of grain were permitted to be liberated on corresponding terms.

In the following year the Government was driven to a still more decisive step to correct the operations of the corn-law; and on September 1 an Order in Council was issued, admitting certain descriptions of grain for home consumption, until forty days after the next meeting of Parliament, at an almost nominal rate of duty, on the ground that, "if the importation for home consumption of oats and oatmeal, and of rye, peas, and beans, be not immediately permitted, there is great cause to fear that much distress may ensue to all classes of his Majesty's subjects." In the ensuing session of Parliament Ministers obtained an act of indemnity for this order. The imperfection of the existing system of taking the averages was effectually demonstrated by the necessity of having recourse to the Order in Council, which might possibly have been unnecessary if the machinery for determining prices could have accommodated itself in less time to any sudden movement which a fear of scarcity had occasioned; but, whatever the height to which prices rose in the quarterly intervals which elapsed between one declaration of the averages and another, no admission of foreign grain could take place until new averages had been struck.

In 1827, after these indications of imperfection had given strength to the opinion that a better system must be devised, Mr. Canning introduced certain resolutions in the House of Commons, and a bill was brought in, founded on these resolutions, fixing a duty of 1*s.* on foreign wheat, when the average price was 70*s.* per quarter; a duty of 2*s.* being imposed for the reduction of each shilling in the averages. In respect to colonial wheat, the duty was fixed at 6*d.* when the averages were 65*s.* per quarter, and when under that sum, at 5*s.* per quarter. The bill was not carried through the House of Lords. An act was, however, passed during this session to permit corn, meal, &c., warehoused on the 1st of July, 1827, to be entered for home consumption upon payment of duties according to a scale which enabled the importer to introduce his stock at a duty of 1*s.*, when the average prices of wheat in the home market were at 62*s.* and not under 61*s.*, the duty falling 2*s.* for every rise of an additional shilling in the average price.† The six weeks' averages still regulated the amount of duty on importation, but they were greatly improved by being every week subject to an alteration. Each week the receiver of corn-returns struck out one week's averages, admitting those last received, and thereby affecting the aggregate average, as prices rose or fell from week to week. The introduction of a fluctuating scale of duty was an important step, the effect of which has been to introduce greater uncertainty both in the home and foreign markets. The act introducing these changes was, however, only a temporary measure, and expired on the 1st of May, 1828, but it was nevertheless acted upon up to the 11th of July, and superseded the necessity of taking another act, also passed in 1827,‡

* 6 Geo. IV., c. 65. † 7 and 8 Geo. IV., c. 57. ‡ 7 and 8 Geo. IV., c. 58.

as a guide in determining the averages, and under which the duty for regulating importation could only have been determined quarterly.

In 1828 Mr. Charles Grant (now Lord Glenelg) introduced a series of resolutions slightly differing from those which had been moved by Mr. Canning, and they were eventually embodied in a bill which was carried through both Houses, and received the Royal assent on the 15th of July. This measure is entitled "An Act to amend the Laws relating to the importation of Corn,"* and repeals 55 Geo. III., c. 26 (1815); 3 Geo. IV., c. 60 (1822); and 7 and 8 Geo. IV., c. 58 (1827). In 150 towns in England and Wales, mentioned in the act, corn-dealers are required to make a declaration that they will return an accurate account of their purchases. [In London, the sellers make the return.] Inspectors are appointed in each of the 150 towns who transmit returns to the receiver in the Corn Department of the Board of Trade, whose duty it is to compute the average weekly price of each description of grain, and the aggregate average price for the previous six weeks, and to transmit a certified copy to the collectors of customs at the different outports. The return on which the average prices are based is published every Friday in 'The London Gazette.' The aggregate average for six weeks regulates the duty on importation according to the following scale:—

When the Average of six Weeks per Quarter is			The Duty per Quarter is	
s.		*s.*	*s.*	*d.*
73	or above		1	0
72	and under	73	2	8
71	,,	72	6	8
70	,,	71	10	8
69	,,	70	13	8
68	,,	69	16	8
67	,,	68	18	8
66	,,	67	20	8
65	,,	66	21	8
64	,,	65	22	8
63	,,	64	23	8
62	,,	63	24	8
61	,,	62	25	8
60	,,	61	26	8
59	,,	60	27	8
58	,,	59	28	8
57	,,	58	29	8
56	,,	57	30	8
55	,,	56	31	8
54	,,	55	32	8
53	,,	54	33	8
52	,,	53	34	8
51	,,	52	35	8
50	,,	51	36	8

Colonial wheat is admitted at a duty of 6*d.*, when the average of

* 9 Geo. IV., c. 60.

the six weeks is at or above 67*s.*; and when below 67*s.* the duty is 5*s.*

From 1815 to July, 1828, the corn-trade was regulated by the act of 1815; though in fact another act had been passed, in 1822, which, depending upon certain contingencies that never occurred, did not come into operation. From 1815 to the end of June, 1827, the averages for regulating imports were published every six weeks. On the 6th of July, 1827, the 7th and 8th Geo. IV. came into operation, by which the aggregate averages were directed to be made up weekly for regulating the duty on corn in bond, which had been warehoused prior to the 1st July, 1827. This statute, though it expired earlier, was still acted upon until July 11, 1828, when the 9 Geo. IV., c. 60 (the present law), came into operation.

It is necessary to recollect that, during the period from 1815 to 1828, several changes occurred in the standard measures by which corn was sold. Until the year 1792 the customary quarter contained 72 gallons; but the Winchester quarter of 64 gallons was then enforced by law (31 Geo. III., c. 30). A new measure, called Imperial, was introduced in 1826 (5 Geo. IV., c. 74), not commensurate with any former measure. The Imperial gallon contains about 66 gallons of Winchester corn-measure, or about 3 per cent. additional in comparative calculation of prices.* In some official instructions from the Corn Department of the Board of Trade, the commutation of one measure for the other is to be made on the calculation that 57 lbs. of wheat are equal to a Winchester bushel, and 59 lbs. to an Imperial bushel. The quantity of flour or wheat meal equal to an Imperial quarter is 392lbs. To convert Imperial into Winchester measure, divide by 31 and add the quotient; and to convert Winchester into Imperial measure, divide by 32 and subtract the quotient.

The following tables show the operation of the corn-law of 1828:—

I.—Highest and Lowest Prices of Wheat in each Year, and Variations per Cent.

Years.	Highest.		Lowest.		Variation per Cent.
	s.	*d.*	*s.*	*d.*	
1828	75	3	51	6	46
1829	75	3	56	3	33¾
1830	72	11	56	1	30
1831	73	5	60	5	21½
1832	63	5	52	5	11¼
1833	55	5	49	10	19½
1834	49	6	41	5	17
1835	42	10	36	8	16¾
1836	61	9	36	0	71½
1837	60	1	52	6	14½
1838	77	0	52	2	47½
From 1828 to 1838	77	0	36	0	113¾

* Mr. Rickman. Population Returns, 1831.

II. Character of the Crop in each Year, and Quantity of Foreign and Colonial Grain admitted for Home Consumption, and the Average Price of Wheat:—

Years.	Character of Crop.*	Quantity admitted for Home Consumption.	Average Prices. s.	d.
1828	Scarcity	842,050	60	5
1829	Average Crop	1,364,220	66	3
1830	Full Average Crop	1,701,885	64	3
1831	Nearly an Average	1,491,631	66	4
1832	Above an Average Crop	325,425	58	8
1833	„	82,346	52	11
1834	„	64,653	46	2
1835	Considerably above an Average Crop	28,483	39	4
1836	Above an Average Crop	00,000	48	6
1837	Under an Average Crop	200,000	55	10

[The importation of foreign wheat in 1838 amounted to about 1,500,000 quarters, the duty having fallen to 1*s.* in the month of September.]

The fluctuations in the condition of agriculture, and the protection which it has received at various periods, are shown in the following summary:—

Years.	Free Importation Price, per Qr. £.	s.	d.	Nominal Duty, per Qr.
1463	0	6	8	Free.
1773	2	8	0	6*d.*
1790	2	14	0	6*d.*
1804	3	6	0	6*d.*
1815	4	0	0	Free.
1822	4	0	0	Free.
1827	3	12	0	1*s.*
1828	3	10	0	1*s.*

* The statements relative to the character of the crops are taken from a table by Mr. Driver, land-agent, and communicated to the Journal of the Stat. Society, No. I.

III. Weekly average price of wheat per Imperial quarter, in England and Wales, in each year, from 1828 to November 1838:—

	1829	1830	1831	1832	1833	1834	1835	1836	1837	1838
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
First week	74 4	56 8	67 1	59 11	53 11	49 6	41 1	36 0	59 0	52 4
Second	74 6	56 7	67 9	59 6	53 8	49 4	40 10	36 6	59 6	52 11
Third	74 11	56 5	68 6	59 3	53 4	49 3	40 7	37 0	59 1	53 7
Fourth	75 3	55 3	69 3	59 4	53 1	49 2	40 7	37 10	58 9	54 10
Fifth	75 3	56 1	75 2	59 5	52 11	49 0	40 9	39 3	57 5	55 4
Sixth	74 11	56 1	71 4	59 7	52 11	49 0	40 10	39 7	56 5	55 4
Seventh	74 7	56 5	72 5	59 7	52 10	48 11	41 0	39 7	56 2	52 3
Eighth	74 3	56 9	73 2	59 6	52 9	48 10	41 0	40 7	55 9	52 2
Ninth	73 2	57 3	73 5	59 4	52 8	48 8	41 0	42 6	55 11	55 3
Tenth	71 10	57 11	73 5	59 1	52 6	48 7	40 9	44 7	56 7	55 4
Eleventh	70 5	58 7	73 2	59 0	52 4	48 5	40 5	45 0	56 9	56 3
Twelfth	69 3	59 4	72 9	58 11	52 4	48 1	40 2	44 2	56 8	56 10
Thirteenth	68 5	60 3	72 4	59 0	52 6	47 11	40 0	44 7	56 2	57 9
Fourteenth	68 0	61 5	71 11	59 2	52 10	47 8	39 11	46 5	55 11	58 8
Fifteenth	68 3	62 7	71 8	59 5	53 0	47 5	39 9	47 7	55 5	58 10
Sixteenth	68 11	63 8	71 6	59 10	53 3	47 4	39 7	48 8	55 6	58 9
Seventeenth	69 6	64 7	71 4	60 2	53 4	47 5	39 5	48 10	55 9	59 0
Eighteenth	69 10	65 5	71 0	60 8	53 5	47 8	39 2	48 3	55 10	60 0
Nineteenth	69 9	66 0	70 5	61 0	53 6	47 10	38 11	47 11	54 7	60 10
Twentieth	69 8	66 1	69 10	61 5	53 6	48 0	38 11	49 3	53 4	62 2
Twenty-first	69 7	65 10	69 0	61 9	53 6	48 0	39 0	50 4	54 4	62 4
Twenty-second	69 7	65 10	68 3	61 10	53 6	47 10	39 3	49 10	56 2	63 1
Twenty-third	69 10	65 9	67 8	61 11	53 6	47 7	39 5	49 5	56 4	64 3
Twenty-fourth	70 3	65 8	67 3	61 11	53 5	47 6	39 8	51 0	56 5	64 11
Twenty-fifth	70 6	65 8	67 1	62 0	53 3	47 7	39 11	51 1	56 11	65 6
Twenty-sixth	70 5	66 0	66 10	62 2	53 4	47 10	40 0	50 6	57 0	67 3
Twenty-seventh	70 2	66 7	66 10	62 5	53 6	48 1	49 1	50 8	56 4	68 0
Twenty-eighth	69 6	67 2	66 8	62 8	53 7	48 4	40 4	50 7	56 1	68 0
Twenty-ninth	68 6	67 11	66 3	63 0	53 11	48 7	40 9	49 4	56 11	68 2
Thirtieth	67 8	69 1	65 8	63 2	54 6	48 8	41 4	49 2	59 2	69 1
Thirty-first	67 1	70 6	65 2	63 4	55 1	48 7	41 11	49 6	60 1	69 11
Thirty-second	66 8	71 9	64 10	63 5	55 4	48 5	42 5	50 8	59 5	71 8
Thirty-third	66 5	72 7	64 7	63 5	55 3	48 6	42 10	50 4	59 6	75 7
Thirty-fourth	66 4	72 10	64 1	63 2	55 5	48 7	42 9	48 10	58 2	77 0
Thirty-fifth	66 5	72 11	64 1	62 6	55 5	48 4	62 5	46 11	56 5	74 5
Thirty sixth	66 10	71 11	63 10	61 7	55 2	47 8	41 9	48 1	56 6	70 2
Thirty-seventh	66 10	69 9	63 7	60 8	54 11	46 10	40 11	47 9	57 8	64 2
Thirty-eighth	65 10	67 4	63 4	59 9	54 7	45 11	40 0	47 10	56 7	61 10
Thirty-ninth	64 10	65 3	62 11	58 8	54 4	44 11	39 2	48 5	56 6	62 11
Fortieth	63 10	63 8	62 9	57 5	54 1	43 11	38 6	48 2	55 9	64 9
Forty-first	62 8	62 4	62 0	56 2	53 8	43 2	38 0	47 2	53 6	66 0
Forty-second	61 0	61 8	61 4	55 1	53 1	42 7	37 7	47 0	51 8	65 7
Forty-third	59 2	61 7	60 11	54 2	52 6	42 2	37 3	47 7	51 0	66 4
Forty-fourth	58 3	61 9	60 7	53 5	52 1	41 11	37 0	49 7	51 7	69 5
Forty-fifth	57 5	62 0	60 10	52 9	51 10	41 8	36 10	51 8	52 11	
Forty-sixth	56 10	62 3	61 0	52 5	51 7	41 8	36 9	55 6	54 4	
Forty-seventh	56 5	62 7	61 5	52 7	51 5	41 9	36 9	60 4	53 7	
Forty-eighth	56 3	63 0	61 10	53 0	51 2	41 10	36 9	61 9	52 6	
Forty-ninth	56 4	63 8	61 10	53 4	50 11	42 1	36 8	59 7	52 8	
Fiftieth	56 8	64 6	61 6	53 7	50 6	42 0	36 9	60 4	53 5	
Fifty-first	56 11	65 3	61 0	53 11	50 2	41 9	36 9	60 6	53 2	
Fifty-second	56 11	65 11	60 5	54 0	49 10	41 5	36 8	59 2	52 9	
Fifty-third								58 9		

IV. Quantity of wheat returned each week by the inspectors of corn returns, under 9 Geo. IV., c. 60, as sold in the 150 towns under inspection*, from 1832 to November 1838 inclusive:—

	1832	1833	1834	1835	1836	1837	1838
	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
First week	63,715	69,846	64,959	76,915	77,034	76,407	68,137
Second	67,243	68,018	65,116	67,120	72,870	75,940	71,853
Third	67,419	72,107	73,542	80,015	91,446	88,026	73,903
Fourth	67,541	70,774	68,681	73,974	93,075	76,591	76,748
Fifth	62,343	68,966	72,085	88,626	92,987	54,506	71,774
Sixth	66,117	66,171	70,192	82,333	79,560	63,618	68,246
Seventh	60,000	61,031	69,969	78,720	81,110	62,865	66,922
Eighth	57,323	62,429	67,093	76,351	98,979	66,356	78,499
Ninth	55,436	61,235	65,503	67,055	90,240	78,007	74,737
Tenth	58,097	56,534	60,942	71,757	77,348	74,127	76,026
Eleventh	62,517	59,243	58,324	70,252	71,800	78,290	86,911
Twelfth	60,951	60,736	53,661	71,598	68,623	71,200	86,842
Thirteenth	56,790	67,203	57,329	72,318	81,056	71,826	75,665
Fourteenth	57,247	64,687	59,345	70,204	72,071	69,646	72,740
Fifteenth	57,958	60,061	65,573	62,953	76,787	66,539	64,591
Sixteenth	62,476	53,759	69,260	67,982	87,282	73,865	67,734
Seventeenth	64,481	56,178	73,131	63,696	81,864	79,901	71,990
Eighteenth	65,065	59,041	74,762	64,939	65,042	85,398	87,121
Nineteenth	68,144	56,474	72,067	79,829	69,484	70,383	90,371
Twentieth	65,096	62,507	59,847	75,861	83,115	68,503	85,996
Twenty-first	59,513	55,633	65,459	75,631	80,607	74,851	87,996
Twenty-second	65,481	55,404	62,855	68,744	69,559	82,089	95,631
Twenty-third	66,481	56,335	68,301	78,628	70,244	85,248	101,234
Twenty-fourth	68,784	61,776	69,553	77,632	83,696	86,103	98,469
Twenty-fifth	70,717	69,624	73,313	66,547	82,564	84,738	87,514
Twenty-sixth	62,138	71,637	65,626	56,419	72,415	73,501	97,189
Twenty-seventh	56,263	70,287	67,223	58,720	69,221	62,375	80,672
Twenty-eighth	45,660	69,072	60,370	59,597	61,413	53,976	72,480
Twenty-ninth	49,876	84,874	60,224	65,991	56,695	61,108	75,477
Thirtieth	47,735	78,806	64,071	73,261	52,123	71,153	72,254
Thirty-first	52,817	81,532	70,941	74,255	66,465	71,877	85,998
Thirty-second	53,867	68,528	73,500	64,772	80,204	78,815	91,371
Thirty-third	47,695	56,498	76,592	62,701	82,098	84,312	108,378
Thirty-fourth	40,761	54,972	69,940	51,216	56,344	66,830	92,139
Thirty-fifth	45,966	71,039	71,507	53,472	48,997	50,090	62,596
Thirty-sixth	63,247	74,984	77,797	64,046	56,584	61,112	48,906
Thirty-seventh	70,920	90,768	86,086	79,385	69,913	69,678	49,941
Thirty-eighth	78,687	86,717	95,158	86,234	96,269	83,216	66,697
Thirty-ninth	81,533	89,271	85,817	95,225	92,585	87,935	76,462
Fortieth	76,084	82,988	80,806	95,971	100,826	85,970	87,285
Forty-first	71,535	81,309	91,568	98,261	91,125	81,516	83,180
Forty-second	72,809	74,218	78,412	93,753	94,309	74,638	
Forty-third	68,442	75,212	84,838	85,036	101,929	70,637	
Forty-fourth	63,173	72,546	83,239	78,411	100,623	71,349	
Forty-fifth	67,966	71,707	84,274	83,664	100,966	69,000	
Forty-sixth	69,747	69,896	75,992	82,834	127,252	78,536	
Forty-seventh	75,279	77,909	89,071	91,956	140,572	80,627	
Forty-eighth	75,561	70,673	92,024	88,404	97,882	83,673	
Forty-ninth	79,351	76,100	80,019	89,172	89,954	92,777	
Fiftieth	74,139	72,313	78,674	88,463	102,401	97,345	
Fifty-first	67,763	74,732	82,783	88,702	96,442	92,956	
Fifty-second	60,379	69,280	81,254	90,907	96,082	77,091	
Fifty-third					91,845		

* A list of these towns will be found in the Companion to the Almanac for 1829, p. 164.

X. CRIMINAL TABLES FOR ENGLAND AND WALES.

1837.

[OFFICIAL STATEMENT.]

THE number of offenders prosecuted in 1837 was 23,612, of whom 17,090 were convicted. The following table classifies the offences of the above 23,612 criminals:—

	Prosecuted.	Convicted.
Offences against the person	1,719	1,046
Offences against property committed with violence	1,400	1,021
Offences against property committed without violence	18,884	13,970
Malicious offences against property	14	38
Forgery and offences against the Currency	456	358
Other offences not included in the above classes	1,039	657

The following table shows the total number of persons committed to trial or bailed in each county of England and Wales during the year 1837, with the proportion of offenders to the population, according to the census in 1831:

Counties.	Criminal Offenders in 1837.	Proportion of Criminal Offenders to Population.	Counties.	Criminal Offenders in 1837.	Proportion of Criminal Offenders to Population.
		One in			One in
Bedford	123	776	Somerset	1,028	393
Berks	270	538	Stafford	909	451
Bucks	258	568	Suffolk	493	601
Cambridge	260	550	Surrey	950	512
Chester	616	542	Sussex	420	648
Cornwall	281	1,071	Warwick	880	382
Cumberland	154	1,101	Westmoreland	25	2,201
Derby	228	1,040	Wilts	482	493
Devon	671	736	Worcester	409	516
Dorset	256	622	York	1,376	970
Durham	202	1,257			
Essex	747	425	Total England	23,134	565
Gloucester	906	427			
Hants	622	505	Anglesea	16	3,020
Hereford	186	597	Brecon	29	1,647
Hertford	335	428	Cardigan	13	4,983
Huntingdon	67	794	Carmarthen	49	2,054
Kent	896	534	Carnarvon	22	2,988
Lancaster	2,809	475	Denbigh	76	1,094
Leicester	432	456	Flint	39	1,538
Lincoln	412	770	Glamorgan	103	1,229
Middlesex	3,273	415	Merioneth	5	7,121
Monmouth	154	637	Montgomery	54	1,231
Norfolk	659	591	Pembroke	54	1,507
Northampton	298	601	Radnor	18	1,369
Northumberland	189	1,179			
Nottingham	307	734	Total Wales	478	1,684
Oxford	272	559			
Rutland	27	718	Total England and Wales	23,612	588
Shropshire	252	884			

Comparing the total numbers in England and Wales in the years 1836 and 1837, the increase of offenders in the latter year amounts to 2,628 persons, or nearly 12·5 per cent. Comparing the numbers in 1837 with the average of the preceding years, the increase in 1837 is 2,224 persons, or 10·4 per cent. If these general results are examined in detail, it will be found that an increase has taken place in thirty-three English counties, and in both North and South Wales. In eight counties it has exceeded 30 per cent., in nine counties it has been between 20 and 30 per cent., and in ten counties it has been between 10 and 20 per cent. These counties are,

	Per Cent.		Per Cent.
Northampton	59	Durham	23
Stafford	43	Essex	21
Cornwall	42	Hereford	21
Leicester	39	Derby	18
Wilts	36	Southampton	12
Bucks	34	Rutland	12
Dorset	33	Chester	11
Berks	32	Northumberland	11
Somerset	29	Oxford	11
Monmouth	28	Salop	11
Devon	27	Sussex	10
Worcester	25	York	10
Westmoreland	25	Gloucester	10
Lancaster	24		

Of the remaining six counties, the increase in Cumberland is 8 per cent., in Warwick 7 per cent., and in Hertford, Kent, Nottingham, and Lincoln, not exceeding 3 per cent. In North and South Wales the increase is respectively 3 and 2 per cent.

In seven counties there has been a *decrease:* in Middlesex of 2 per cent., in Surrey of 3 per cent., and in five contiguous counties of the Norfolk circuit, viz. in Bedford of 24 per cent., Norfolk 11 per cent., Cambridge and Suffolk 7 per cent., and Huntingdon barely 1 per cent. Of the forty English counties, there has been a continuous *decrease* during each of the three last years in Middlesex and Surrey only; and during the same period, a progressive increase in Essex, Somerset, and Cumberland only.

It would be incorrect to assume that the increase in the number of offenders, as shown by these calculations, is proof of an increase of crime to the same extent. The increase in the number may, perhaps, in a great degree be attributed to the increased proportion of apprehensions consequent upon the extensive establishment of an efficient police in the municipal boroughs, and to the greater facilities in criminal proceedings afforded by the extended grants of local sessions.

It is gratifying to observe, that, on an analysis of the increase of the last year, it will be found to have been chiefly confined to offences of the least atrocious character. On the *first* class, the offences against the person, there has been a decrease of 12 per cent.; in

murder, attempts to murder, and manslaughter, the decrease is 7 per cent. as compared with the preceding year, and 14 per cent. as compared with the average of the three preceding years: in the unnatural offences there has been a great decrease, so also in assaults on peace officers, and common assaults; but in rape and attempts to ravish there is an increase of 8 per cent. In the *second* class, the violent offences against property, the increase of the last year is 6 per cent.: but, if compared with the average of the three preceding years, it is reduced to 2 per cent. The principal increase in the second class has been in burglary and in house, shop, and warehouse breaking; in sacrilege and robbery there has been a decrease. The gradual but certain proportional decrease which the total numbers charged with violent offences against the person and against property, included in the above two classes, have borne to the total of offences, is worthy of observation. This proportion was,

	Per Cent.		Per Cent.
In 1834 . . .	17·44	In 1836 . . .	15·50
1835 . . .	16·25	1837 . . .	13·21

It is in the *third* class, containing the great bulk of offences committed by simple theft or fraud, that the increase has principally occurred, having amounted to nearly 17 per cent. In sheep-stealing there has been a considerable increase in each of the two last years, and in larceny by servants in each of the four last years. In simple larceny alone the increase exceeds 18 per cent. In malicious offences against property there has been a decrease which has reached 32 per cent., and has extended, with one exception, to every offence included in this class. In forgery and offences against the currency, there has been an increase of 27 per cent. In the *sixth* class, the miscellaneous class, there is a trifling increase, though there has been a marked decrease during the last three years in the offences against the game laws, which are included in it.

In looking at the increase generally, it may be observed, in reference to what has been mentioned as to the effect of the new municipal police in producing it, that assaults, both common assaults and those on peace officers, robbery, and attempts to rob, larceny from the person (picking pockets), riots, breaches of the peace, &c., which from their nature are immediately open to the observation and prevention of a police, have *decreased;* while on the contrary, those offences not so immediately within the view of a police, whose action tends rather to their detection and prosecution than to their prevention, have increased; such as larceny in dwelling-houses, thefts by servants, embezzlement, receiving stolen goods, frauds, uttering counterfeit coin, and keeping disorderly houses.

The following is a comparative view of the sentences passed during each of the four last years:—

	1834.	1835.	1836.	1837.
Death	480	523	494	438
Transportation for life	864	746	770	636
,, 15 years	..	..	..	66
,, 14 years	688	554	585	479
,, 10 years	..	..	..	179
,, 7 years	2,501	2,325	2,249	2,413
,, Other periods	7	4	7	12
Imprisonment for 3 years & above 2 yrs.	6	11	1	14
,, 2 years & above 1 yr.	308	290	285	394
,, 1 yr. & above 6 mths.	1,582	1,543	1,455	1,628
,, 6 months and under	8,825	8,071	8,384	10,258
Whipped, Fined, and Discharged	727	651	535	562

The sentences classed in the tables under the head "Imprisoned six months and under," comprise so large a proportion of the punishments, that in order to show them with greater exactness the numbers have been calculated which fall under these more minute periods, viz.:

Imprisoned 6 months, and above	5 months		2,261
,, 5 months	,,	4 months	51
,, 4 months	,,	3 months	748
,, 3 months	,,	2 months	2,461
,, 2 months	,,	1 month	1,731
,, 1 month	,,	2 weeks	1,890
,, 2 weeks	,,	1 week	597
,, 1 week	,,	3 days	376
,, 3 days and under			143

This calculation strongly exhibits the leniency with which the law is administered. Of the whole number convicted, 42 per cent. were sentenced to periods of imprisonment not exceeding three months; and the proportion sentenced to periods not exceeding six months reaches 60 per cent.

The number of executions during the past year is far below that of any previous year on record. Eight persons only were executed, all of whom were convicted of murders of an atrocious character; two for one offence in Norfolk, and one in each of the counties of Middlesex, Surrey, Bucks, Gloucester, Worcester, and York.

The total number acquitted was 6,496: viz., on trial, 4,388; no bills being found, 1,637; not prosecuted 471. This gives the proportion of acquittals to convictions, 1 in 3·6. The proportion acquitted in the different classes of offences was

1st class	1 in 2·6	4th class	1 in 1·5
2d class	1 in 3·7	5th class	1 in 4·7
3d class	1 in 3·8	6th class	1 in 2·7

This variation in the proportion is a result which might be anticipated from the different nature of the offences of which the classes

are comprised. In the offences against property, in the second and third classes, the property stolen affords not only the clue to detection, but its possession one of the strongest proofs of guilt; a proof which does not exist in the offences against the person in the first class, nor in the malicious offences of the fourth class. The large proportion of convictions in the fifth class may be attributed to the prosecution of offences against the currency by the officers of the Mint. In uttering counterfeit coin, the proportion acquitted is only 1 in 5·6. At the same time it will be found, that the acquittals bear some proportion to the penalty attached to the offence; and that where the most severe penalties are incurred, a stronger proof is necessary to insure conviction than in the lighter offences. Taking some of the offences separately—in arson and attempts to burn dwellings, &c. (offences, however, of extremely difficult proof,) the acquittals are 1 in 1·2; in murder and attempts to murder, 1 in 1·5; in rape, and assaults with intent to ravish, 1 in 1·7; in forgery, 1 in 2·5; and in robbery, 1 in 2·2; though in burglary and house-breaking the acquittals are only 1 in 4·5, a very high proportion, and greater than in simple larceny, in which offence they are 1 in 4·2.

The proportion acquitted in each of the four last years was—

In 1834 . .	1 in 3·5	In 1836 . .	1 in 3·4
1835 . .	1 in 3·5	1837 . .	1 in 3·6

which would seem to show an increased certainty of procedure in the last year, and that the recent alteration in the law, allowing prisoners the assistance of counsel, has not caused an increase in the number of acquittals.

On a comparison of the returns from the several counties a great disproportion is exhibited in the acquittals. The general average, as before stated, is 1 in 3·6. This average has been exceeded in sixteen counties, the most prominent of which are—

Warwick . .	1 in 4·8	Leicester . .	1 in 4·1
Lancaster . .	1 in 4·5	Wilts . . .	1 in 4·0
Nottingham .	1 in 4·4	Bedford . .	1 in 4·0
Chester . .	1 in 4·4	Middlesex. .	1 in 3·9
Gloucester .	1 in 4·1		

The ten counties in which the proportion acquitted was the greatest are—

Hereford . .	1 in 2·2	Surrey . .	1 in 3·1
Monmouth .	1 in 2·3	Suffolk. . .	1 in 3·1
Cumberland .	1 in 2·7	Oxford. . .	1 in 3·1
Stafford . .	1 in 2·9	Cambridge .	1 in 3·1
Northumberland	1 in 3·0	Devon . . .	1 in 3·1

The number of offenders, tried before the different Courts, was ascertained in the year 1835: it has also been calculated for the present year. The numbers at these two periods were—

	1837.	1835.
County Quarter Sessions' Courts .	13,044	10,737
Circuit Assize Courts	3,466	3,408
Local Courts	4,027	3,737
Central Criminal Court	3,075	2,849

The proportion tried at the quarter sessions in 1835 was nearly 52 per cent.; in 1837 it was above 55 per cent. The proportion tried at the assizes, on the contrary, was 16 per cent. in 1835, and had decreased above 1·5 per cent. in 1837.

In the ages of criminals but little variation, except a slight decrease in the proportion of the youngest class, is observable. The following Table will show the numbers in 1837 at the different periods of life, and a comparison of the proportion at these ages in each of the three last years:—

	1837.		1836.	1835.
	Number.	Proportion.	Proportion.	Proportion.
Aged 12 years and under .	358	1·52	1·84	1·67
16 years and above 12	2,296	9·72	9·71	9·70
21 years ,, 16	6,902	29·23	29·03	29·65
30 years ,, 21	7,494	31·74	31·42	31·92
40 years ,, 30	3,439	14·56	14·43	14·01
50 years ,, 40	1,571	6·65	6·76	6·60
60 years ,, 50	764	3·24	3·33	3·24
above 60 years . .	365	1·55	1·40	1·30
unknown	423	1·79	2·08	1·91

The attention of parliament having been for some time directed to the subject of juvenile delinquency, such particulars have been collected relative to this description of offenders as could be obtained from the criminal returns, in addition to those which have been embodied in the tables. The actual ages of the prisoners contained in the two first of the above divisions, were—

	Male.	Female.		Male.	Female.
Aged 7 years .	0	1	Aged 13 years .	295	31
8 „	11	1	14 „	453	65
9 „	22	1	15 „	480	87
10 „	50	15	16 „	734	151
11 „	70	12			
12 „	150	25			
Total .	303	55	Total .	1,962	334

Of the above number, the result of the charges is worked out with respect to 358 prisoners. Against 12 there was no prosecution; in the case of 26 no bill was found; 39 men acquitted, being only 1 in 4·6, the usual proportion being 1 in 3·6, making the number convicted 281. Of these, 37 were transported, 9 whipped, 3 fined, and the remainder sentenced to various terms of imprisonment; in addition to which of those aged 12 years, 32 were sentenced to be whipped once, and 12 twice; of those aged 11 years, 15 once, 2 twice, and 1 thrice; of those aged 10 years, 12 once and 1 twice; of those aged 9 years, 5 once and 1 twice; and 1 aged 8 years, once. Of 301 persons (out of the above total of 358,) the

periods of imprisonment before trial appear from the returns; they are found to average 26 days. Of 205, who upon conviction were sentenced to terms of imprisonment, 77 had undergone, before trial, a longer imprisonment than that to which they were afterwards sentenced by the Court.

The degree of instruction has been ascertained during the past year, under the same definitions as in the year preceding. The proportions, at these periods, are as under:—

	1837.	1836.
Unable to read and write	35·85	33·52
Able to read and write imperfectly	52·08	52·33
Able to read and write well	9·46	10·56
Instruction superior to reading and writing well .	0·43	0·91
Instruction could not be ascertained	2·18	2·68

Of the 358 offenders aged 12 years and under, 50 per cent. were uninstructed; 48 per cent. were able to read and write imperfectly; and little more than 1 per cent. to read and write well.

The extensive changes in the criminal law by the acts of the 1st Victoria could not be shown in the tables for 1837, the acts not having come into operation till late in the year; but the tables for 1838 will be so drawn up, and such new definitions of offences introduced, as may be required to show the operation of these acts, and the effect they have had upon criminal proceedings.

XI.—STEAM NAVIGATION.

THERE are periods in the history of man during which the arts of social life appear to make little if any progress; when society, contented with its former achievements seems to think only how best and most quietly to enjoy the benefits of previous discoveries and inventions. There are, on the other hand, seasons in which one invention and improvement prepares the way for another, and discoveries in art and science succeed each other with a rapidity the most exciting and surprising. Such a season as this it is the good fortune of the existing generation to experience. That which excited our wonder yesterday gives place to the greater wonder of to-day, which, in its turn, is doomed to be eclipsed by some undreamed-of invention to-morrow. Under this aspect, every year as it passes adds that to the sum of our possessions and the magnitude of our hopes, which gives an air of insignificance to the achievements of preceding years; and while in former times it was a characteristic of wisdom and prudence to be slow in accepting the actual discoveries of Science, it would now be deemed imprudent and unwise to doubt even her promises. Nothing has so much contributed to bring about this state of things as the incessant improvements of the steam-engine and its adaptation to new purposes and to processes which owe their practical development wholly to this modern giant. Among those purposes by far the most important to the peaceful and social progress of the

world which has yet been attained is the art of *locomotion*, which, although its beneficent influence is most apparent in the western portion of Europe, and especially within the limits of our own country, has given and is giving an impulse to society which is felt in the remotest corners of the habitable globe.

In the Companion for 1838 some tables were inserted which comprised materials for the history of Steam Navigation in this country, from the moment of its first adoption to the end of 1836. At the close of the remarks by which those tables were accompanied, notice was taken of preparations on a gigantic scale, then in a state of great forwardness, for putting to the test of experiment an undertaking, the accomplishment of which had been the subject of much controversy among the best-informed men. Steam-ships of large burthen, and provided with engines of greater power than any before constructed for the purpose of navigation, were then in progress towards completion; and public attention was forcibly drawn to the inquiry whether in the present state of our knowledge such vessels could be profitably engaged in transatlantic voyages. That experiment has since been made and repeated with the most triumphant success. The voyages between this country and New York of the "Sirius," the "Great Western," and the "Royal William," have been performed since the spring of 1838, free from the intervention of a single obstacle or accident, and transatlantic steam-voyages may now be said to be as easy of accomplishment, by means of ships of adequate size and power, as the passage between London and Margate. The Sirius and Great Western arrived back from their first voyages on the 19th and the 22nd of May, and their success has not only afforded encouragement to other adventurers in the same track, but has already proved the signal for embarking in yet more distant undertakings, the successful issue of which seems to excite far less doubt than hung over the experiment of the American voyage when last year we noticed the preparations in progress.

The effects, political, social, and moral, of this practical approximation of the Old and the New Worlds, it is not possible to trace or to foresee. There is much wisdom in the remark lately made in one of our daily journals, that between two countries which have for any long time maintained a regular and frequent communication by means of steam-packets it would be morally impossible that war should arise. By such facility and certainty of intercourse connexions are formed, multiplied, and extended to a degree which must soon embrace the largest proportion of the most active and therefore the most influential inhabitants of both countries, and engage them by the strongest of human motives to prevent a rupture. If this remark has a true foundation as regards any two countries, it must assuredly be true when applied to England and the United States of America. The half-century which has elapsed since the separation of the plantations from the mother country has witnessed the removal from this life of all who could have taken an active part in the struggle which preceded that untoward event, but has not sufficed to cancel the remembrance of

our common origin nor to efface the feelings of pride which on either side attend upon the progress and prosperity of the other. Where is the Englishman who does not rejoice at the successive proofs which America continually gives that she remembers and does honour to her origin? and where is the American who does not look to England as to the land of his fathers, whose heart does not glow at the remembrance of her glories, or who would not tread her shores with a feeling of reverence that no other scenes could call up? Was it only the excitement of curiosity that, when the Sirius and Great Western entered the harbour of New York, drew the whole population of the city forth to greet them with such heart-stirring acclamations? Would the same enthusiasm have marked the accomplishment of the experiment if it had been made under any other flag than that to which their fathers bore a willing allegiance? Nor have our American friends been slow to profit by the means thus offered for giving an impulse to the intercourse between our countries. Many have already been tempted by the celerity and certainty of the voyage to visit *the old country* who might otherwise have contentedly continued at home; and it is now no idle speculation to foretel that thousands among the men of intelligence in England and America will respectively be led to spend on the other side of the Atlantic that season of recreation from the toils of commercial or professional pursuits which they have been hitherto contented to pass nearer to their homes. The ties of a common origin and a common language, joined to the attractions of habits, customs, and feelings, bearing closer resemblance than those of any other countries, may give a force to this consideration as regards England and America greater perhaps than can be applied to it in general, but the difference is one of degree only, while it is the inevitable tendency of more intimate communication to break down the barriers raised by ignorance and prejudice, to bring about the conviction that many things are disapproved only because they have been misunderstood, and that the points of resemblance between the citizens of different countries—especially those of them which belong to the moral qualities of our nature—are far greater in number and more important in their character than any points of difference that can be presented. Even as regards those points of difference, the man who travels with his powers of observation awakened will in most cases be led to acknowledge that they are well adapted to the circumstances of the places in which they occur, and that to exchange them for the customs of his own country might not in general be productive of greater happiness. It might not be difficult to show that in some respects difference of customs may tend to the increase of the general prosperity. It is only when such differences are suffered to influence our minds so as to engender unkindly feelings that they can be hurtful to us; and it will be found impossible long to entertain such feelings when we shall have enjoyed the opportunity of seeing how much there is of kindliness and virtue to be found among every people, however much we may at first have been repelled by habits that appeared grotesque, and customs that might be thought revolting.

It has been said by those who desire to undervalue the achievement that the Sirius is not the first steam-ship that has successfully made the passage of the Atlantic. This is true. So long ago as 1819, the "Savannah," a vessel of 300 tons burthen, built at New York, performed the passage between Savannah and Liverpool in twenty-six days; and in 1828, the Curaçoa, an English-built vessel of 350 tons, furnished with engines of 100-horse power by Messrs. Maudsley and Field of London, made more than one successful trip between Holland and the Dutch West India colonies as a packet in the service of the Netherlands government. Besides these must be mentioned the Enterprise, which a few years since made the voyage round the Cape of Good Hope to India. In all these cases, however, steam was used as an auxiliary, and not as the one essential means of propulsion, which has been the case with the Sirius, and those other vessels whose successful *steam-voyages*, in the fullest meaning of the term, have now been performed.

These voyages have all been made in the spring and summer seasons; less favourable weather is now approaching, and apprehensions are frequently expressed as to the safe performance of the passage amid the storms of winter. These apprehensions might have been thought reasonable if the peculiar capability of steam-vessels for encountering storms and for avoiding the dangers of a lee shore had still to be proved. Sailing vessels have always been accustomed to make their voyages in winter as well as in summer; and no man who has had adequate experience in such matters would not far more willingly trust himself at all times—but especially in bad weather—in a well-appointed steam-ship than in the finest sailing-vessel that was ever launched. The following paragraph, taken from an Edinburgh newspaper which has come to hand at the moment of writing these remarks, strongly corroborates the justice of this assertion. "Captain Turner of the Clarence steam-ship, which arrived at Leith from London on Tuesday morning (9 Oct.), mentions that, from Sunday at 10 in the morning till mid-day on Monday at sea, it blew a gale at north-east with frequent snow-showers, and so heavy was the gale that *no sailing vessel could look at it, but had to take shelter in the harbours or roadsteads* of Harwich, Yarmouth, &c." Since the first establishment of steam-conveyance between London and the capital of Scotland, upon which line the finest vessels have generally been placed, many instances have occurred in which they have been the means of saving the crews of sailing vessels which have foundered through the severity of storms that have offered no obstruction to the steamers. Accidents have indeed occurred to some ships of this construction which have been most melancholy through the great loss of life which they have occasioned; but in every instance of this kind there has been sufficient reason for believing that a culpable degree of carelessness has been shown in regard to the condition of the vessel or her machinery—that these have been so faulty in construction, or so defective in repair, that, with a due regard to the safety of the passengers, the

vessel should not have been suffered to put to sea. Such regard to the safety and even to the convenience of the public has been sufficient to induce the legislature to place under very strict regulations the owners and drivers of public carriages in and about the metropolis, and surely it is of as much importance that conveyances which, from the nature of the element to which they are committed, are far more exposed to dangers and casualties than land-carriages, and which are frequently thronged with human beings, should equally be placed under inspection and regulation. There is no reason to believe that any such inspection or regulation is at present needed with regard to the magnificent and costly ships engaged in Atlantic steam-voyages, but such regulations, if imposed at all, must necessarily be of universal application; it is, besides, reasonable to expect that success will engender competition, and that in the race for public patronage an inferior class of ships may in time be attracted to the service, whose owners will underbid each other in their scale of charges, and seek to secure for themselves the requisite degree of profit by means inconsistent with the safety of the passengers conveyed. Any reasonable plan of this kind for the security of the public would be far from causing dissatisfaction to opulent and respectable proprietors, who have hitherto engaged, or who may hereafter embark, in this branch of steam-communication, since it would guard them from that degree of reckless and unprincipled competition which has so often caused the best-laid schemes to end in disappointment and loss.

With the exception of the two instances already mentioned—the voyages of the Savannah in 1819 and of the Curaçoa in 1828—the glory of effecting lengthened sea-voyages by the aid of steam is hitherto confined to England. During seven years the mails for the Mediterranean have been despatched in steam-ships from Falmouth; so that the controversy which was cut short by the successful passage of the Sirius had no reference to the safety of the undertaking, nor to its practicability, except as regarded the ability to stow an adequate quantity of fuel for accomplishing so great a distance as that between this country and New York. It was assumed, from the performance of the government steam-packets passing between Falmouth and Corfu, that, taking an average of voyages, the greatest rate of progression attainable by sea-going vessels was "7¼ miles per hour, taken in a direct line between the places, and without allowing for the necessary deviations in the course of the vessels." This rate is equivalent to 174 miles in 24 hours, from which it was thought some abatement should be made for interruptions arising from stress of weather and occasional derangements of the machinery, and more especially of the paddles. It was therefore thought more correct to estimate the daily run of a steam-vessel on long voyages at 160 miles or 6⅔ per hour, and it was assumed that, at the usual rate of consumption for marine engines, no vessel could calculate upon making good 2000 miles of her distance with any quantity of fuel which it could be made to carry. In the first passage of the Sirius from Cork to New York the average daily rate of distance performed was 161 miles, the greatest performance in any one day being 218 miles, and the

least, with a strong adverse wind and a heavy sea, being 94 miles. The vessel was nevertheless able to make good the whole distance, 2896 miles, by means of the coals taken on board at her departure. The Great Western, on her longer route from Bristol to New York, 3223 miles, averaged 211 miles daily or 8¾ miles per hour—the greatest and least daily performances being 243 and 169 miles respectively. In this case also the quantity of fuel with which the vessel left Bristol proved abundant for the completion of the passage.* The error made in previous calculations arose from assuming that the rate of consumption of fuel would be as great in vessels furnished with machinery of the most improved construction as it had been in vessels fitted some years before. The tendency to improvement in this most important particular forms one of the most hopeful features in the prospect before us for the still further extension of steam-voyages. Since the fitting out of the Great Western a very simple plan has been discovered by which the whole of the smoke generated in the furnace of a steam-boiler is consumed, and at the same time the consumption of fuel is said to be economised considerably more than one-third. This plan, which has been in use during several months in the factory of Messrs. W. Casey and Co. of Edinburgh, consists in conducting a portion of the steam—about one-tenth of the quantity generated—into the furnace and discharging it over the burning fuel. This discovery, if upon further experiment it should prove successful, must be productive of the most important results. Should it even effect no more than the consumption of the smoke, it will remove one of the most serious objections to the employment of steam-vessels during a time of war, the volumes of smoke proceeding from their chimneys giving warning of their approach before the hulls of the vessels or even their masts are visible.

The *Sirius* was not intended to be continued in the service, for which she was not originally constructed. The experiment of making good the distance between this country and America by means of steam-power she successfully accomplished, but the unavoidable expenses of the voyage were greater than could be defrayed by the amount of freight and payments received from the limited number of passengers for which she afforded accommodation. She has accordingly been placed upon another line. The dimensions of the *Great Western* and her machinery are as follows:—

	Ft.	In.
Length of vessel between the perpendiculars	212	0
Length of vessel over all	236	0
Depth of hold	23	3
Extreme breadth of beam	35	4
Width measured outside the paddle-cases	58	4
Draught of water when loaded	16	0
Burthen in tons—1340 tons.		
Diameter of paddle-wheels	28	0
Length of paddle-boards	10	0

* The Sirius took with her 453 tons of coal, of which 431 tons were consumed, and 43 barrels of resin equal to 21½ tons of coal. The Great Western had on board at her departure 660 tons of coal, of which only 452 tons were used when she reached New York.

		Ft.	In.
Height of centre of shafts		18	5
Diameters of shafts—15 and 16 inches.			
Width of bearings		1	3
Diameter of cylinders		6	1
Length of stroke		7	0
Diameter of air-pump		3	4
Length of stroke of ditto		3	6
Length from centre of shaft to centre of cylinder		19	6
Width from centre to centre of engines		13	0
Four boilers of equal dimensions with separate furnaces and flues	Length	11	6
	Width	9	6
	Height	16	9

Weight of engines—about 200 tons.
Power of engines—450 horses.
Weight of boilers—106 tons.
Water in boilers—80 tons.

The steam is used expansively; that is, the supply from the boilers to the cylinders is cut off before the piston has fully performed its downward and upward movements. This is by no means a new arrangement, but its application to marine engines is believed to be now first made in English vessels. The object is economy in the use of steam, and the mode in which this advantage is gained will be understood from the following explanation. The movement of the piston within the cylinder, from which the power of the engine is derived, is secured, in what are called low-pressure engines, by the production of a vacuum on each side, alternately, of the piston, while a pressure equal to the ordinary weight of the atmosphere, or about fifteen pounds on each square inch, is preserved by means of the steam admitted to the other side of the piston. In high-pressure engines the power is gained by the elastic force of steam, in a state of compression, acting against the ordinary pressure of the atmosphere upon each side of the piston alternately, while the steam previously admitted to the other side of the piston, and which has performed its office of driving the piston to the top or bottom of the cylinder, is allowed to pass freely from the cylinder through an eduction valve. Marine engines, although in this country they always bear the character of low-pressure engines, are in fact a combination of both high and low pressure; the steam employed has an elastic force, somewhat but not much greater than that of the atmosphere, and acts on one side of the piston through its efforts to expand itself, while on the other side a vacuum is produced by the condensation of steam which has already performed its functions. The elastic force of the steam used in our marine engines is never great, and without the aid of the vacuum would be of but little effect in giving motion to the machinery, but it must be evident that, whatever may be the amount of that elastic force, it will act as an auxiliary to the power gained by means of the vacuum. Let us, in order to explain the advantage of working steam expansively, assume that it is admitted to the cylinder from the boiler with an expansive force of thirty pounds on each square inch of surface. Such steam, when admitted into a space which allows of such an expansion, will enlarge itself to double its original

volume, and will then have a force equal to the ordinary weight or pressure of the atmosphere. If then steam of thirty pounds pressure be admitted within the cylinder, and the supply be stopped when the piston has performed half its course, the effect will be to exert a force during that half equal to its elastic power of thirty pounds, and then to exert a progressively decreasing force through its tendency to expand itself, until at the completion of the stroke the volume of the steam will have been doubled, and its force thereby diminished to the ordinary pressure of the atmosphere. It must be understood that these numbers and proportions are used merely for exemplification; the steam is not often used at so high a density as two atmospheres (30 lbs. to the inch,) nor is the supply to the cylinder always cut off at half the stroke, but sometimes at two-thirds or three-quarters, thus allowing the steam to expand through the remaining one-third or one fourth only of the course of the piston. It will be evident, however, that by this means a considerable economy is produced in the quantity of steam expended, and that the gain will be equal to the power exerted by the steam admitted to the cylinder during the time in which it is expanding its volume, *minus* the cost of the greater weight of fuel required for generating steam of high elasticity, which increase bears only a small proportion to the power which is by such means accumulated. In the Great Western the arrangement of the valves is such that the supply of steam to the cylinders can be cut off at any part of the stroke, or the steam can be admitted during the whole of the stroke, at the pleasure of the engineer and according to the varying conditions of the wind and weather.

One most important and necessary element for the profitable extension of steam-navigation is cheap fuel, in which respect Great Britain has some advantage over all other countries. America, it is true, has also an abundance of cheap fuel, but not of the description which is essential for the accomplishment of distant voyages. The fuel used in the furnaces of marine engines in that country is almost universally pine-wood. Some experiments have lately been made with the indigenous coal-anthracite, but the difficulties attending its employment for this purpose do not as yet appear to have been surmounted. The advantage which England enjoys in the possession of an abundance of bituminous coal is not so great, however, with reference to Transatlantic voyages, as some persons have imagined. An American steam-ship, for instance, that should visit this country, would be placed in this respect upon a footing of equality with ships under the British flag; and this equality would still continue—at least after the first passage of the ocean should be made—in the desirable and possible event of such a degree of economy being produced as would enable a ship to provide herself at the cheapest market with fuel sufficient for the entire outward and homeward voyage. But this equality requires that at some period of the voyage such cheapest market should be visited—a condition which has not hitherto been embraced by American steam navigators. The advantage of our strong bituminous coal over the pine-wood of America when applied to navi-

gation differs greatly in different parts of the American union. The relative efficiency of wood and coal as fuel is as two cords and three quarters, each 128 cubic feet, of the former, to one ton of the latter. The price of a cord of wood is in New York 20*s.*; on the Saint Lawrence 7*s.* 3*d.*; and on Lake Ontario 5*s.*, with a tendency in every case to advance with the increasing population of the district. The cost of wood-fuel at these respective prices would be equivalent to the price of 55*s.*, 19*s.* 11*d.* and 13*s.* 9*d.* per ton for coal.

There are already established three separate companies for prosecuting steam-navigation between England and America—viz. one from Bristol, to which the Great Western belongs; one from London, by which the Sirius was despatched, and which company has built the British Queen, now receiving her machinery at Port Glasgow, and is building another ship of equal dimensions. The third company is established at Liverpool, from which port it has already sent the Royal William, now absent on her second voyage, and the Liverpool, which started on her first trip on the 20th of October, but was forced back, by stress of weather and a deficiency of fuel, to Cork harbour, from whence she departed finally on November 6. These three companies, when fairly in operation, will probably be able to satisfy, for only a short time, the public convenience; since it is in the very nature of every great facility of this kind to create for itself the necessity for its extension. Even during this, the first season of their employment, in which the Atlantic steamers have, in every voyage, carried their full complement of passengers, the sailing-vessels or *liners*, as they are called, between England and the United States, have suffered no diminution in that respect.

It seems hardly possible that our adventurous friends in America will long permit us to run away with all the honour and the profit accompanying this new enterprise. Although not accustomed to lengthened steam-voyages in the open sea, the achievements of America in this kind of navigation have long been upon a scale of magnificence to which, until the present year, we have certainly not attained. The vessels plying in the Hudson, between New York and Albany, are all of large dimensions, generally more than 200 feet long, and are furnished with engines of enormous power. One of these vessels, the Rochester, is 209 feet 10 inches long, and 47 feet wide outside the paddle-wheels; she is propelled by one condensing engine with a cylinder of 43 inches, and worked with steam expansively at the pressure of 45 pounds on the square inch; the length of the stroke is 10 feet, and the piston makes 27 double strokes, i.e. moves through the space of 540 feet, every minute. The power of the engine, calculated from these data, is equal to that of 772 horses, and, upon the supposition that one-third of this power is expended in overcoming the friction of the machinery, there will still remain a force equal to that of 514 horses for propelling the vessel. The length of the route between New York and Albany is 150 miles, which distance is performed by the Rochester and other powerful vessels in 10 hours, exclusive of

stoppages at the several towns and landing-places on the river to take in and land passengers. The speed attained is therefore 15 miles per hour on the average; but, as the difficulties of the navigation in some part of the passage make it necessary to check the speed of the vessel, the maximum velocity must of course be greater than the rate here mentioned, and is said to be 16½ miles per hour.

The vessels which are employed on the Western waters of the United States are almost all of them propelled by high-pressure engines. The Saint Louis, which plies on the Mississippi, is 230 feet long, and 28 feet wide exclusive of her paddle-wheels. She is propelled by two engines, the cylinders of which are 30 inches in diameter, and the length of stroke 10 feet: the steam is admitted to the cylinders with a pressure of 100 pounds on each square inch. The number of strokes per minute is not stated, but, on the supposition that the speed of the piston is equal to 400 feet per minute, which is 140 feet or 35 per cent. less than that attained in the Rochester's engine, the gross power of the two engines in the Saint Louis is equal to that of 1700 horses, and, allowing as before one-third for overcoming the friction of the machinery, the effective force applied to the progress of the vessel is equal to that of 1130 horses. The elastic power of the steam employed in this vessel, great as it may be thought, is frequently exceeded in the steam-ships of the Western rivers. Mr. Stevenson mentions, in his 'Sketch of the Civil Engineering of North America' (page 154), that "the Rufus Putnam, a pretty large vessel, drawing six feet of water, which plies between Pittsburg on the Ohio and Saint Louis on the Mississippi, is propelled by a single engine having a cylinder of 16 inches diameter and 5 feet 6 inches length of stroke, but this engine is worked by steam of a most dangerously great elasticity. The captain of the vessel informed me that, under ordinary circumstances, the safety-valves were loaded with a pressure equal to 138 pounds on the square inch of surface, but that the steam was occasionally raised as high as 150 pounds to enable the vessel to pass parts of the river in which there is a strong current; and he added, by way of consolation, that this amount of pressure was never exceeded except on extraordinary occasions!" The frequency of explosions under these circumstances is not very wonderful. These have of late been so numerous and so disastrous, that it is thought the central government will feel itself called upon to enforce regulations that may prevent such a waste of human life in future.

The subjoined tables, in continuation of those inserted in the Companion for 1838, will show the progress made in this country during the year 1837 in the employment of steam-vessels. It will be seen from these tables that the amount of tonnage of this description of vessels registered in that year was the greatest that has occurred since their first adoption, and that the increase made to this branch of our mercantile marine, as compared with 1836, was 11 per cent. in the number of vessels and 15 per cent. in the amount of their tonnage. It would appear that the greater part

of this increase has been employed in passenger-traffic, since the increased tonnage employed in the coasting and foreign trades has very little exceeded 6 per cent. having been 5,429,226 tons in 1836 and 5,767,717 tons in 1837. In the foreign trade the increase has been 13 per cent., while in the coasting trade it has been very little more than 5 per cent. beyond the tonnage of 1836.

The number of steam-vessels employed under the American flag in 1834 was 386, with the aggregate burthen of 96,000 tons. Since that year the number has been greatly augmented, and it is said that there are employed upon the Ohio and Mississippi alone more than 400, while there are 50 more employed upon the great Lakes connected with the Saint Lawrence. It will be seen that the average tonnage of American steam-vessels very greatly exceeds the capacity of those belonging to this country, but it is presumed that a part of this superiority is owing to the system of admeasurement in use with us, which excludes the space occupied by the machinery in taking the measurements required for ascertaining the registered tonnage of the vessel.

There were employed on the rivers and in the ports of France in 1835 only 100 steam-vessels, and in 1836 the number was only increased by 5 vessels. In addition to those, the government possesses 40 steam-vessels, including upwards of 20 employed as packets in the Mediterranean.

Number and tonnage of British steam-vessels built and registered in the year 1837, distinguishing those built in the Plantations from those built in British possessions in Europe:—

	Vessels.	Tonnage.
England	53	6,223
Scotland	22	4,488
Ireland	3	958
United Kingdom	78	11,669
British Plantations	4	478
Total	82	12,147

Number and tonnage of steam-vessels belonging to the British empire in 1836, distinguishing British possessions in Europe from the British Plantations.*

	Vessels.	Tonnage.
England	422	37,240
Scotland	109	13,368
Ireland	87	18,437
United Kingdom	618	69,045
Guernsey, Jersey, &c.	6	832
British Plantations	44	8,411
Total	668	78,288

* The following numbers are exclusive of steam-vessels employed exclusively in river traffic, and which do not therefore require to be provided with a register.—These vessels are exceedingly numerous—The Thames, the Clyde, and the Tyne swarm with them, but there are not any means for ascertaining their number or tonnage.

Number and tonnage of steam-vessels, distinguishing those employed in the coasting-trade from those engaged in foreign voyages, which entered the ports of the United Kingdom and cleared from the same with cargoes in the year 1837. (The numbers include the aggregate of repeated voyages made by the same vessels during the year, and are exclusive of vessels in ballast or with passengers only.)

	Coasting Trade.				Foreign Trade.			
	Inwards.		Outwards.		Inwards.		Outwards.	
	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.
England . . .	9,388	1,505,186	9,182	1,465,432	1,174	227,818	1,471	258,003
Scotland . . .	3,335	561,988	2,841	481,208	5	1,450	10	2,378
Ireland . . .	2,758	604,403	2,996	658,099	4	876	4	876
United Kingdom	15,481	2,671,577	15,019	2,604,739	1,183	230,144	1,485	261,257

XII.—THE UNIFORM PENNY POSTAGE.

THE progress this question has made in the public mind gives great hope of its success. Scarcely two years have passed since its projector modestly sent the scheme in a small pamphlet to make its way in the world. Its novelty startled every one, and it seemed a thing too good to be feasible. It has been talked over by the whole country, and the result is, a conviction that it is no idle dream. The highest mercantile authorities so far pronounce judgment in its favour, that they begin to talk of forming a company to farm the postage, undertaking to reduce to a penny universally, and to guarantee the revenue from any loss, in case the Government fear to risk the present postage revenue. Mercantile committees and large subscriptions to promote the success of the plan have been made in London, Liverpool, Manchester, Edinburgh, Glasgow, and other places. The popular feeling seems in nowise behind that of the mercantile classes, for it appears that upwards of 320 petitions in favour of the plan were presented to Parliament last session; whilst it may be noted that, in the previous sessions, similar petitions only amounted to *five* in number. But the most important testimony in its favour is the Report of the Select Committee of the House of Commons, which sat during the whole of last session to inquire into its merits. The Report and evidence are highly interesting, but are so very bulky that we must content ourselves with reprinting the more important resolutions passed by the Committee, which, indeed, are the substantial groundwork of the Report.

The Committee pass the following judgment on the present rates of postage:—

The Committee are of opinion, that the evidence taken before them abundantly proves the present high rates of postage are ex-

tremely injurious to all classes, both in their individual and social capacity, interfering as they do with their progress in moral and intellectual improvement, and, in some degree, with their physical welfare: also that those rates, by restricting the transmission of letters of advice, invoices, orders, &c., produce a most serious injury to commerce, and, consequently, to national prosperity: that by checking communication between persons interested in the same object, or engaged in the same pursuit, they tend greatly to restrain the progress of the nation in art and science: that by circumscribing the operations of the different societies instituted for the spread of religion, the advancement of morality, and the promotion of charitable objects, they have an injurious effect on the character of the poorer classes, and also interfere with their domestic comforts: that independently of their more direct effect on the progress and dissemination of knowledge, they tend also, by the obstacles they oppose to the writing and publication of books, to limit and deteriorate education: that they operate to the prejudice of health, by preventing the transmission of medical advice, and of lymph for vaccination: that by occasioning increased expense, or delay submitted to for the sake of avoiding expense, they interfere to a serious extent with legal professional correspondence: that they either act as a grievous tax on the poor, causing them to sacrifice their little earnings to the pleasure and advantage of corresponding with their distant friends, or compel them to forego such intercourse altogether; thus subtracting from the small amount of their enjoyments, and obstructing the growth and maintenance of their best affections: lastly, that they lead to the most extensive violations or evasions of the statutes for the protection of the Post-office revenue, and thus impair that habitual respect for the law which it should be one of the first aims of an enlightened Legislature to secure.

With respect to the NON-INCREASE OF POST-OFFICE REVENUE, the Committee are of opinion that it is mainly owing to the combined operation of the high rates of postage, and of the increased and increasing facilities for the illicit conveyance of letters, that, after a lapse of the last twenty years, during which population has greatly increased, and trade, commerce, and education have been widely extended, the Post-office revenue exhibits only a very small increase; and consequently, that, even supposing the rates to be regulated without regard to public convenience, and merely with a view of rendering them as productive of revenue as possible, they are at present much too high.

INCREASED FACILITIES ARE NECESSARY.

The Committee are of opinion that the additional facilities which have hitherto been afforded to inland correspondence, in the despatch of letters, by the Post-office department, have all tended to the convenience of the public, and in a majority of instances to the improvement of the revenue: that further facilities would be attended with like advantages, and that every reasonable effort should be made, by substituting direct for circuitous routes, and by expediting the delivery, to abridge, as far as practicable, the time which must elapse between the despatch and delivery of a letter.

Upon the important novelty of a UNIFORM RATE the Committee are of opinion, that that part of the inland postage on letters which consists of tax ought to be the same on all: that as the cost of conveyance per letter depends more on the number of letters carried than on the distance which they are conveyed, the cost being frequently greater for distances of a few miles than for distances of hundreds of miles, the charge, if varied in proportion to the cost, ought to increase in the inverse ratio of the number of letters conveyed; but as it would be difficult, if not impossible, to carry such a regulation into practice, and as the actual cost of conveyance (assuming the charged letters to bear the whole expense of the franked letters and of the newspapers), forms less than the half of the whole charge, exclusive of tax, the remaining portion consisting chiefly in the charges attendant on their receipt at and delivery from the Post-office, the Committee are of opinion that the nearest practicable approach to a fair system would be to charge a uniform rate of postage between one post-town and another, whatever may be their distance; and the Committee are further of opinion that such an arrangement is highly desirable, not only on account of its abstract fairness, but because it would tend in a great degree to simplify and economise the business of the Post-office.

PRE-PAYMENT OR PAYMENT IN ADVANCE.

The Committee are of opinion, that, taking into consideration the whole evidence relating to payment in advance, such an arrangement would greatly simplify the accounts, and expedite the delivery of letters, and, consequently, tend to economise the management of the Post-office: that postages, therefore, if paid in advance, might be reduced to a lower rate than would otherwise be practicable: that the public would prefer a low rate, if collected by means of stamp paper, though restricted to payment in advance, to a higher rate, unaccompanied by such restriction: that in the event of its adoption, however, it would be expedient, in the first instance, to allow an option whether to pay in advance or not, the payment on delivery being made considerably higher than payment in advance.

STAMPS, OR STAMPED COVERS.

The Committee are of opinion, that the most convenient and economical mode of effecting payment in advance would be by means of stamps or stamped paper, to be issued by the Stamp-office, which should have the effect of franking the letters. The use of such stamps or stamped paper should be made compulsory as soon as warranted by experience. This arrangement would relieve the Post-office of a considerable portion of its financial accounts, and render more secure the collection of the revenue.

WEIGHT.

The Committee are of opinion, that to regulate the postage charge entirely by weight would be fairer than the present arrangement, and more acceptable to the public; also that it would tend to the prevention of error and fraud; but they are doubtful whether, with the half-ounce gradations proposed by Mr. Hill, it

would or would not facilitate the internal operations of the Post-office.

The next resolution estimates the number of chargeable letters, counting double and triple letters as single only, which now pass through the post-offices of the United Kingdom in a year, to be between 75,000,000 and 80,000,000, of which about 57,00,000 are general-post letters, and the remainder penny, twopenny, and threepenny post letters. That the number of franks is about 7,000,000, and the number of newspapers about 44,000,000.

Illicit Conveyance of Letters.

The Committee are of opinion that the illicit conveyance of letters is proved to be practised systematically in all parts of the kingdom to an extent it would be difficult to estimate: that the illicit conveyance is on the increase, and will probably continue to increase in an accelerated rate as railroads, steam-boats, and other rapid means of communication come into use: that the causes of this habitual breach of the law are principally the high rates of postage, and, in some instances, a want of sufficient opportunities for the despatching of letters through proper channels: that the law has been found altogether impotent for the prevention of the practice; and that even if it could be enforced, a most serious evil would be inflicted on society, without a corresponding benefit to the revenue, inasmuch as a large portion of letters would be suppressed altogether: and, finally, that the only mode of effectually checking the illegal conveyance of letters would be to reduce the charges to the standard of the illicit letter carrier. If this were done, the Committee are of opinion that the superior regularity and safety of the conveyance by post would, in a short time, induce the public to make use of the Post-office for the despatch of letters on all occasions. In which case the Committee are of opinion that the existing practice of corresponding through the medium of newspapers, by means of conventional forms in the address, marks under the print, concealed writing on the margin of wrapper, and other contrivances, to which the high rates of postage have given birth, would, in a great measure, be suppressed, and that an increase in the number of posted letters would result from such suppression.

Increase of Letter-writing.

The Committee are of opinion, that, in addition to the great increase of letters by post which would result from bringing all, or nearly all that are now written into the Post-office, a great reduction in the rates of postage, accompanied by payment in advance, stamped paper, and other facilities, would induce much more frequent communication between friends, and between persons in business, making, in the whole, a great extension of the actual correspondence of the present letter-writing class.

Correspondence of the poorer Classes.

The Committee are of opinion, that, in addition to the important sources of increase which have already been noticed, the industrious and poorer classes, whose correspondence is now almost altogether suppressed by the high rates of postage, would, on a very considerable reduction of the rates, accompanied by the previously

proposed arrangements, avail themselves, for the first time, of the Post-office; and that although their contributions might be small individually, yet, taking their number into consideration, the aggregate amount would be most important.

GENERAL REVENUE IMPROVED BY REDUCTION OF POSTAGE.

The Committee are of opinion, that the cheap, speedy, and more frequent communication by means of post, which it is the object of Mr. Hill's plan to establish, would greatly facilitate all commercial transactions, and lead to a great extension of trade, both foreign and domestic. That this extension of trade would, in no inconsiderable degree, improve the general revenue of the country, and thus, in all probability, fully compensate for any small diminution which might take place in the revenue of the Post-office.

TEMPORARY TWOPENNY RATE.

The Committee are of opinion, that, prior to establishing the uniform rate of 1*d.*, it would be expedient, in the first instance, to reduce the rates on inland General-post letters to a uniform rate of 2*d.* per half ounce, increasing at the rate of 1*d.* for each additional half ounce; reserving all cases of prices current, the letters of soldiers and sailors, and others, where 1*d.* only is now charged, and of such short inland rate as is hereinafter recommended to be charged on a distance of fifteen miles.

UNIFORM RATE OF ONE PENNY.

The Committee are of opinion, that, as soon as the state of the public revenue will admit of the risking a large temporary reduction, it will be expedient to subject all inland letters to a uniform rate of 1*d.* per half ounce, increasing at the rate of 1*d.* for each additional half ounce.

PENNY POSTAGE EMBRACING FIFTEEN MILES.

The Committee are of opinion, that, considering the strength of concurrent evidence on the evasion of postage chargeable between neighbouring towns, and also that the present system of penny-posts is partial and unequal, a uniform rate of 1*d.* per half ounce ought immediately to be established for all distances not exceeding fifteen miles from the post-office where the letter is posted, the payment being made in advance through the medium of some kind of stamp, and that the charge, when not so paid in advance, should be 2*d.*

The subsequent resolutions are comparatively of minor importance, though all tending to give great advantages to the public. It is recommended that—

All rates of PACKET-POSTAGE be immediately reduced to the uniform rate on ship-letters.

FRANKS be abolished.

There be an option on the payment in advance on FORRIGN LETTERS.

The LONDON RECEIVING-BOXES be increased in number, and the METROPOLITAN POST-RANGE enlarged.

FEES AT PROVINCIAL RECEIVING-BOXES be abolished by increasing the number of such boxes.

The TWELVE HOURS DETENTION OF CORRESPONDENCE PASSING THROUGH LONDON be remedied if possible.

The DETENTION OF LETTERS ON SUNDAY IN LONDON, "though they are actually sorted and made ready for despatch by officers kept on duty at the Post-office on Sundays for the purpose," be remedied.

RAILWAYS OF GREAT BRITAIN.

These works, to a description of which so much space was allotted in the Companions for 1837 and 1838, are proceeding with a degree of spirit at least equal to that shown at any former period. Each line or portion of a line of road as it is successively opened for public traffic seems to give an additional impulse to the system of which it forms a part, and by the success that attends its operations to attest the reasonableness of the expectations that have been formed in regard to the benefits which the community will reap from the more extensive carrying out of that system.

It may be in part attributed to the check given to all transactions of a speculative character by the monetary derangement experienced in 1837, that no *new* projects of this kind have been undertaken during the past year, and that many schemes already proposed, but which on further investigation would not bear out the sanguine promises of success with which they were ushered forth to the world, have been, at least for a time, abandoned. It is perhaps well, for many reasons, that this should be the case. Abundant as capital is in this country, there is a limit to the amount ready for employment in any one direction; and if by reason of the abandonment of a part of the projected lines of railroad, those which are continued are carried forward with a greater degree of zeal and spirit, their proprietors and the country at large will equally benefit. It is besides hardly to be desired that by the multiplication of these works in simultaneous progress, any temporary derangement should be made in the labour market. The railroads now in the course of construction give employment to as many hands as could probably be spared from other occupations without creating inconvenience, and without raising the rate of wages in a manner which would not be to the lasting benefit of the labourers, while it would add inconveniently to the cost of construction. Besides this, our experience in railway engineering is yet but recent. Every year, nay, every month, serves to suggest economical improvements which may be adopted with advantage in beginning new lines, although they might not be available for such as should be already begun. A considerable part of the capital expended on the Liverpool and Manchester line would be saved if the work had now to be performed. Mr. Booth, the principal manager of that work, in writing to the Secretary of the Irish Railway Committee, more than six years after the opening of the railway, says upon this subject:—"Some explanation seems requisite of the ground of my expectation that a more economical working will obtain in future undertakings. In the original formation of the road, imperfect rails, insufficient sleepers, and inadequate draining, have been, and still are, the cause of heavy and constant expenditure. Gradually these defects are in course

of being remedied; but time and money are indispensable in this process, and the work of transition from wrong to right is yet far from being accomplished: further time will be needed, and further sums must be expended. New railways will have a great advantage in this respect: in the formation of the road—in the mechanism of the engines—in the construction of the carriages—in everything which constitutes the working of a railway. They will start at a point which we have not yet reached or only in solitary instances." This of itself would be an insufficient argument for delay in undertaking new works, and might lead to their indefinite postponement, because until improvement shall have reached its limit, it would be equally cogent at one period as at another; but taken in conjunction with the other circumstances which have been advanced, it affords an additional reason for circumspection.

In the session of 1837-38 only two acts received the royal assent for new lines, both of which were projected before the present year. One of these is to connect Edinburgh with Glasgow; the other is a line of little more than two miles in length projected for the advantage of a colliery, and is devoid of public interest. The royal assent was given during the session to eighteen railway bills, but sixteen of these were to sanction deviations, to authorise the raising of larger capitals, or for extending the time allowed for finishing the works.

London and Birmingham Railway.—This work, by far the most important of the kind hitherto undertaken in England, was opened for public use through its entire length on September 17, 1838. A slight notice of that part of the line adjoining to London which was opened in the autumn of 1837, was given in the Companion for 1838; but it is conceived that a work of this magnitude, which is in all likelihood destined to be henceforth the chief channel of communication between the metropolis and all the midland and northern parts of Great Britain, calls for a more detailed description than was then offered.

The act by which the company was incorporated received the royal assent in 1833. The capital which the shareholders were authorised to raise among themselves by subscription of 100*l.* shares was 2,500,000*l.*, a sum which would considerably exceed the cost of the whole undertaking, as detailed in the estimates made by the engineers employed. It is true, that some extensions of the original design have since been made with a view to the completeness of the concern, and in order to provide for the efficient management of an amount of traffic promising to be far beyond anything contemplated when the surveys and original estimates were made. It forms, however, a forcible commentary on the inexperience of our best instructed engineers when employed on such works, that the sums actually expended on this railroad up to the 30th of June last, eleven weeks before it was so far completed as to be opened for traffic throughout, was 4,553,557*l.* 11*s.* 9*d.*, and that in the opinion of the directors the entire outlay will amount to 5,000,000*l.* before the works are in all respects complete. This increased expenditure has been provided for by means of loans taken up on debentures at a favourable rate of interest,

charged on the general income of the company and upon a proportion of the capital not yet called for from the proprietors of shares. An additional capital of 625,000*l.*, divided into 25,000 shares of 25*l.* each, has been sanctioned by Parliament, but upon these shares only 20 per cent. has yet been paid, while 10 per cent. still remains uncalled in respect of the original capital of 2,500,000*l.* The shareholders are therefore still answerable for 750,000*l.*, which sum when paid up will do little more than provide for the outlay after the 30th of June as above stated, leaving the company burdened with a debt of about 2,000,000*l.*, upon which interest must be paid out of the profits before any dividends can be made to the proprietors of shares. So little discouraging, however, are these circumstances in the eyes of the public, and such are the expectations held of profits to be realised from the traffic on the line, that the shares and quarter-shares, upon which 95*l.* have been paid, are saleable at 206*l.*

The entrance to the railway at Euston Grove in the New Road is through a very handsome Doric gateway resembling the entrance to a temple. The height to the top of the pediment is 70 feet, to which the other dimensions of the gateway are proportionate. The station within covers an area of seven acres, and is wholly occupied with the offices and buildings required for passenger traffic. This station did not form part of the original design, but has been added in order to provide a more convenient *terminus* for travellers, and to separate the passenger from the merchandise department. The latter is carried on at what was originally intended for the *terminus*, and is situated at the north side of Park Street, Camden Town, where about thirty-three acres are occupied with buildings for engines, waggons, goods, and other accessaries needful for the carrying department. The connexion between the two stations is through a deep cutting, walled up on either side, in passing through which the carriages are carried under seven bridges. The distance, which is about a mile and a quarter, forms an inclined plane, up which on their departure from London, the trains of carriages are drawn by means of an endless rope that runs round cylinders which are set in motion by two stationary engines of sixty horse-power, the chimneys of which are seen to ornament the Camden Town depôt. On their arrival in London the trains descend this inclined plane by their own *momentum:* the remaining part of the journey is performed by means of locomotive engines. Almost immediately after leaving Camden Town is the entrance to the Primrose-hill tunnel, an excavation 1120 yards long: the width at the base and height at the crown of the arch being each twenty-two feet. This tunnel is bricked throughout, and is ventilated by means of five capacious shafts placed at equal intervals. Three miles further on is the Kensal Green tunnel, 320 yards long. Crossing the river Brent by a handsome viaduct of seven arches, the road passes near to Harrow, and across the beginning of the town of Watford, a little beyond which is another tunnel, 1 mile and 70 yards in length, 25 feet high, and 24 feet wide. The towns next passed are King's Langley and Berkhampstead, leaving Saint Alban's and Hemel

Hempstead on the right. The line then passes to the right of Tring across the vale of Aylesbury to Leighton-Buzzard, immediately beyond which is another tunnel 272 yards long. Fenny-Stratford is then passed on the right, and Stony-Stratford on the left, parallel to which last-named town in the line of the railway is the village of Castle-Thorp, which is about midway between London and Birmingham. Between Leighton-Buzzard and Stony-Stratford is Denbigh Hall, a point of the road which for about five months formed the limit of railway travelling on the side of London, from which it is distant forty-eight miles: the road was opened for traffic between Tring and Denbigh Hall on the 9th of April, 1838. At Blisworth, about five miles beyond Castle Thorp, occurs a cutting through blue limestone rock about two miles long, with an average depth of fifty feet. The quantity of rock removed from this cutting is estimated at 1,200,000 cubic yards, and the expense attending this part of the work has been stated at 200,000*l.* To the right of this cutting and about five miles distant is the town of Northampton. Five miles beyond Blisworth occurs Wedon tunnel, 418 yards long, which passes obliquely under the ancient Watling-street. Leaving then the town of Daventry on the left about four miles distant, the next object that occurs worthy of particular notice is the Kilsby tunnel, 2,398 yards in length, one of the most laborious works upon the whole line. A considerable part of its length, nearly 600 yards, is carried through a quicksand, and the constant use of powerful steam-engines was necessary in order to keep the water under so as to enable the excavators to continue their work: the expense of this tunnel is said to have been 400,000*l.* Rugby is the next town that occurs on this line of railroad, and twelve miles further on it reaches Coventry. One other tunnel, about 300 yards long, occurs at Beechwood near Hampton-in-Arden, beyond which lie the villages of Sheldon and Yardley, and about three miles further is the Birmingham *terminus* of the road, which lies at the north-eastern extremity of the town, adjoining the station of the Grand Junction Railway. The Birmingham station occupies an area of about ten acres, and contains all the requisite conveniences for conducting the passenger and merchandise traffic of the company. It would not be possible within any reasonable limit to give an adequate description of the many laborious and magnificent works which have been executed in the course of this stupendous undertaking. By means of tunnels, open cuttings and embankments, the inequalities of the country have been so far overcome that, with the exception of the inclined plane between Euston Grove and Camden Town, the least favourable inclination is equal to only 1 in 330, or 16 feet in a mile. Only about 13 miles of the road is perfectly level, the remainder forming a series of inclined planes. The station at Birmingham is 250 feet above the level of the London station.

The following general account of receipts and disbursements on account of this great undertaking, made up to the 30th June, 1838, was laid before the proprietors by the directors, at their half-yearly meeting on the 21st of August:

RECEIPTS.

	£.	s.	d.	£.	s.	d.
Calls from proprietors of shares, viz.—						
90*l.* per share in 25,000 shares of 100*l.*	2,250,000	0	0			
5*l.* per share in 25,000 shares of 25*l.*	125,000	0	0			
	2,375,000	0	0			
Less calls in arrear	11,994	10	0			
				2,363,005	10	0
Loans—On mortgage of tolls	1,000,000	0	0			
„ Debentures on security of tolls and calls	1,119,000	0	0			
„ Due in account with sundry persons	66,500	2	0			
				2,185,500	2	0
Land and materials re-sold	1,671	5	11			
Contract fines	2,320	0	0			
Forfeited shares	315	15	11			
				4,307	1	10
Interest on Exchequer bills and bankers' balances	23,852	17	10			
Interest on calls in arrear	3,298	0	10			
				27,150	18	8
				4,579,963	12	6
Passengers—traffic, cattle and parcels				83,233	15	2
				4,663,197	7	8

DISBURSEMENTS.

Payments for obtaining Acts of Incorporation	72,868	18	10			
Land and compensation	622,507	3	10			
Conveyancing	10,755	12	9			
Works—Road and stations	3,465,065	18	8			
Engines and tenders	46,091	8	10			
Carriages, waggons, trucks, &c.	109,710	6	0			
Stores, viz.—Coke department	3,000	0	0			
„ Coaching ditto	2,000	0	0			
Engineering	80,887	3	2			
Law charges	7,804	7	7			
Advertising and printing	4,457	10	1			
Direction	11,091	2	6			
Office charges, salaries to secretaries, &c	23,050	16	8			
Sundries, including travelling charges	12,806	17	8			
Stamps, and charges on mortgages and bonds	9,770	4	2			
Interest on loans	71,690	1	0			
				4,553,557	11	9
Loco-motive power, including repairs of engines, &c.	15,533	10	3			
Carried forward	15,533	10	3	4,553,557	11	9

	£.	s.	d.	£.	s.	d.
Brought forward .	15,533	10	3	4,553,557	11	9
Coach, and carrying disbursements, including repairs .	23,607	0	4			
				39,140	10	7
Balance of cash in hand . .				70,499	5	4
				4,663,197	7	8

The cost of the iron rails used throughout the line amounts to about one-tenth part of the expenditure, or 460,000*l.*; the weight of iron is about 35,000 tons. The stone blocks are estimated to weigh 152,460 tons, and their cost is stated to have been 180,000*l.* The total excavations are calculated at 15,000,000 cubic yards.

The times of departure of the trains are fixed as follows:—

UP TRAINS.

From	Hours.	Trains.
Wolverton .	6¼	a.m.—Mixed
Birmingham	7	a.m.—Mixed
	*a*8½	a.m.—First mail
	*a*12¼	p.m.—Mixed
	*a*2¼	p.m.—First
	*a*4¼	p.m.—First
	5½	p.m.—Mixed to Wolverton only
	*a*11¼	p.m.—Night mail

DOWN TRAINS.

From	Hours.	Trains.
Wolverton .	*a*7	a.m.—Mixed
London	*a*8	a.m.—First
	*a*9	a.m.—Mixed
	*a*11	a.m.—First mail
	2	p.m.—Mixed
	4	p.m.—First
	5	p.m.—Mixed to Wolverton only
	*a*8¼	p.m.—Night mail

SUNDAYS.

Wolverton .	6¼	a.m.—Mixed
Birmingham	2¼	a.m.—First mail
	*a*1¼	p.m.—Mixed
	*a*11¼	p.m.—Night mail
London	8	a.m.—Mixed
	*a*11	a.m.—First mail
	5	p.m.—Mixed to Wolverton only
	*a*8¼	p.m.—Night mail

The trains marked thus (*a*) are in conjunction with those of the Grand Junction Railway, sufficient time being allowed in Birmingham for refreshment.

Arrangements have been made with the principal country coach proprietors for the establishment of branch conveyances to and from the railway stations and the neighbouring towns, and the midland and northern counties and North Wales; and information may be obtained, and places secured by such branch coaches at the following offices, viz.:—Spread Eagle, Gracechurch-street; Cross Keys, Wood-street; Swan with Two Necks, Lad-lane; George and Blue Boar, Holborn; Spread Eagle, Regent-circus; Golden Cross, Charing-cross; and where also parcels will be received on behalf of the Railway Company.

The fares for the whole distance between London and Birmingham are as follows:—

	Day Train. s.	d.	Night Train. s.	d.
Mail carriages carrying four inside . .	32	6	..	
First class carriages, carrying six inside .	30	0	32	6
Second class carriages, enclosed . . .	..		25	0
Second class carriages, with open sides .	20	0	..	

The fares for the intermediate distances for first and second class carriages by the day trains are as follow (the night trains are in proportion):—

	FROM LONDON.			FROM BIRMINGHAM.		
	Miles.	First Class Carriages.	Second Class Carriages.	Miles.	First Class Carriages.	Second Class Carriages.
		s. *d.*	*s.* *d.*		*s.* *d.*	*s.* *d.*
To Harrow Station	11¼	3 0	2 0	103	28 0	19 0
„ Watford	17¼	4 6	2 6	97	26 6	18 6
„ Boxmoor	24¼	6 0	3 6	90	25 0	17 6
„ Berkhampstead	28	6 6	4 0	86½	24 6	17 0
„ Tring	31¾	7 6	4 6	82¾	23 6	16 6
„ Leighton-Buzzard	40	9 6	6 0	74¼	21 6	15 0
„ Denbigh Hall	47¾	11 6	7 6	66¼	19 6	13 6
„ Stony Stratford	52½	13 6	9 0	62	17 6	12 0
„ Towcester	..	16 6	11 0	..	14 6	10 0
„ Wedon	71	19 0	12 6	43½	12 0	8 6
„ Daventry	..	21 0	14 6	..	10 0	6 6
„ Dunchurch	..	23 0	16 0	..	8 0	5 0
„ Rugby	83¾	24 0	16 6	30¼	7 0	4 6
„ Coventry	105¼	26 0	18 0	8¾	4 6	2 6

The sums received for traffic between the 20th July, 1837, and the 8th of April, 1838 (in the portion of the road then open between London and Tring, 30¾ miles), amounted to 25,156*l.* 3*s.* 5*d.*, or at the average rate of 680*l.* per week, or 97*l.* daily. Between the 8th April and the 11th August, when the road was further opened to Denbigh Hall, on the London side, and to Rugby, from Birmingham (78½ miles), the receipts amounted to 103,538*l.* 9*s.* 4*d.*, or at the average of 5,752*l.* per week, and 821*l.* per day. During this last period of eighteen weeks the traffic has progressively increased, being in the last week of the series double what it was in the first. In the week ending 14th April, the traffic amounted to 3,500*l.* 3*s.* 8*d.*; in the week ending 12th May, it had increased to 4,605*l.* 9*s.* 1*d.*; in the week ending 9th June, the receipts were 5,637*l.* 10*s.* 4*d.* The weekly receipts had advanced by the 14th July to 6,813*l.* 17*s.* 5*d.*; and in the week ending 11th August, to 7,032*l.* 2*s.* 8*d.*, or rather more than 1,000*l.* per diem. The whole amount of passenger-traffic upon the line of road between London and Birmingham, previous to the construction of the railway, estimated from Stamp-office returns, and calculated at railway prices, was stated in evidence before Parliament to amount to 246,916*l.* 16*s.* It thus appears, that, even when so incomplete as to occasion the great inconvenience to passengers of twice changing their convey ance in the course of the journey, the advantages of this mode of travelling were such as to induce an increased communication to the extent of 50 per cent., in addition to the great number of persons, who, unwilling to encounter the inconvenience, continued to avail themselves of the old modes of conveyance.

The road was first used for the conveyance of goods on the 12th of November, 1838. Coach parcels are carried for any distance not exceeding 50 miles at the charge of one shilling each, or, if exceeding 24 lbs. weight, at a halfpenny per lb. For a greater distance than 50 miles, the charge is—

Up,	1*s.* 3*d.* each, or, if exceeding	15 lbs. weight,	1*d.* per lb.
Down,	1*s.* 6*d.*	"	"	18 lbs. "	1*d.* "

Such parcels are further conveyed by means of the Grand Junction Railway, between London and Liverpool or Manchester, for 2*s.* 6*d.* each, or, if exceeding 15 lbs. weight, then for 2*d.* per lb. The charge for van goods, either up or down, between London and Birmingham or Coventry, is 6*s.* 6*d.* per cwt. Between London and Liverpool or Manchester 12*s.* per cwt. These rates include delivery and all charges except booking in London.

Sheffield and Rotherham Railway. This line was projected in 1834, but the promoters meeting with much opposition to their plans both in and out of parliament, the act incorporating the subscribers was lost in the House of Lords in 1835, and was not passed until July, 1836. The length of the main line from Sheffield to Masbrough and Rotherham is 5⅞ miles, and of the branch to the Greasborough collieries 1¾ miles, altogether 7⅝ miles. The capital of the company is 100,000*l.* divided into 4000 shares of 25*l.* each, and permission is given to borrow 30,000*l.* further if required. It is calculated that the entire cost of the works, including the outlay necessary for the carrying establishment, will prove little if anything below 150,000*l.* The cost of obtaining the act of incorporation is said to have amounted to more than 11,000*l.*, and the company has had to pay large sums as compensation to proprietors of lands through which the line is carried: the Duke of Norfolk alone received on this account 9764*l.*

The station in Sheffield stands upon an angular piece of land formed by the junction of the Rotherham and Barnsley roads. The entrance gateway for passengers is a plain substantial structure fronting towards the town: the entrance for goods is in Savile street. On first leaving the stations there occurs a slight curve, after which the line is perfectly straight for nearly two miles until it approaches the village of Brightside. This part of the road which runs on an embankment, is followed by a cutting which in some parts is 40 feet deep. This proved the heaviest part of the work, and it furnished soil required for a great part of the embankments. The next portion of the road has been formed by embanking to the height of 20 feet, after which cutting again occurs, and this alternation of embanking and cutting is continued until the line crosses the cut of the River Dun Company by an iron bridge, and crosses the river itself by a wooden bridge constructed of Kyanised timber: this bridge is 300 feet long, and 26 feet above the river. The station of Rotherham stands between the river and Westgate: it is very conveniently placed near to the centre of the town. The trains leave Sheffield every hour from 8 o'clock in the morning till 7 in the evening. From Rotherham the departures are also hourly, and extend from 9 in the morning

till 8 in the evening. The fare by the first class carriage is one shilling; passengers in the second class carriages pay 9*d.* each head, and in the third class the fare is only 6*d.* This railway was opened for traffic on the 31st of October 1838, when the journey from end to end was performed in fifteen minutes.

The steepest ascent throughout the line occurs near Masbrough where for about half a mile the inclination is 1 in 132, or 40 feet in a mile. There is no other gradient steeper than 1 in 470, or less than 12 feet in a mile. One great object of this railway is to make available to the manufactories of Sheffield, the produce of the coal-fields of Kimberworth, Greasborough, and Rawmarsh; and it was consequently from the great coal owners, already in possession of the Sheffield market, that the opposition came when the undertaking was first projected. The traffic hitherto has greatly exceeded what was expected, being 2000 daily, excepting on Sunday, when the numbers are even more considerable.

Durham Junction Railway. The object of this undertaking is to form a communication between the South Durham Coal Field and South Shields as a shipping port. It begins near to Moorsley where it joins the Hartlepool railway, and it ends in the township of Usworth, where it is connected with the Stanhope and Tyne railway. This was not intended as a passenger line, and indeed must be considered as an affluent of the Stanhope and Tyne railway, by the proprietors of which it has been principally promoted. About a mile before the junction with the railway just mentioned, the rails are carried across the Wear by means of a magnificent bridge with four principal arches, besides smaller ones in the abutments. Three of these principal arches are thrown across the valley to obtain the proper level, two of them on the north and one on the south side of the river. The one arch by which the river is crossed is of 160 feet span, the next arch on the north side is 144 feet, and the two outer arches are each 100 feet span. The entire length of the bridge is 810 feet, the width within the parapet is 21 feet, and what is the most astonishing part of the erection, the height from the level of the water is 130 feet. This beautiful bridge was finished on the 27th June, the day before the coronation of the Queen, and to commemorate that event has been called the "Victoria" bridge. The Durham Junction Railway was opened for use during the meeting of the British Association in the town of Newcastle: the act of incorporation was obtained in 1834.

The North Union Railway. This work commences at Parkside the spot on the Liverpool and Manchester railway where the late Mr. Huskisson was killed, and terminates at Preston. Being distant only a quarter of a mile on the opposite side of the road, from Newton where the Grand Junction Railway likewise falls into the Liverpool and Manchester line, the North Union Railway provides a continuous line from London to Preston 219½ miles in length. This line will be continued still further in the same direction by the Lancaster and Preston railway now in progress of construction. The first 2¼ miles of the North Union Railway after leaving Parkside are up a slight inclination, the next 4 miles

are a dead level, after which a steep incline, rising at the rate of 1 in 100, carries the line into the town of Wigan. The next 5 miles are through some very heavy embankments and cuttings in some places 60 feet deep. The summit level at Coppull, is attained by means of two inclined planes rising at the rate of 1 in 100. Between Coppull and Yarrow are three inclined planes, two of them short, but the third more than a mile in length. The River Yarrow is crossed by a wooden bridge 400 feet long and 32 feet wide, the road way standing 73 feet above the bed of the river. Two more inclined planes occur between Yarrow and Preston, one at Leyland, the other at Farrington, and at the entrance to the town of Preston there is a cutting 41 feet deep and a fine bridge of 5 arches, each of 120 feet span. The natural difficulties of the country lying north of Lancaster will probably limit railway operations in that direction. At the opening of the North Union Railway, which occurred on the 22nd October, the whole distance of 22½ miles was accomplished in 45 minutes. Under the name of the *Wigan Branch Railway* a part of this line between Parkside and Wigan has been in operation since 1835, but the traffic for that short distance was not sufficient to make an adequate return to the shareholders. The extension to Preston was determined on, and an act incorporating the projectors passed in 1831, but the two lines were not united until 1834, when an act to that effect passed the legislature.

Newcastle and Carlisle Railway. The works between Haydon Bridge and Hexham being completed, this line of road 60 miles in length was opened for railway traffic throughout on the 18th of June, 1838, and has hitherto more than fulfilled the expectations of its promoters. Its course was described in the Companion for 1838.

London and Southampton Railway. This important work has been carried forward during the last twelve months with the greatest possible degree of activity. Its course was stated, and the towns and places through which it will pass were detailed, in the Companion for 1838 (p. 56). The line was opened to Woking Common, distant 23 miles from London on the 21st of May last, and although in that distance the road does not pass through or near to any town of great importance the public were not slow to avail themselves of its use. During the 12 weeks that next followed this partial opening 93,795 passengers travelled upon it; the proportions being for the first 4 weeks 29,127, for the second 4 weeks 31,585, and for the third 4 weeks 33,083, thus showing a gradual and steady increase of traffic. These numbers greatly exceed the estimate upon which the calculations of the projectors were based. On the 29th September the line was further opened to Shapley Heath, 38 miles from the station at Nine Elms, having Hartley Row on the north and Winchfield on the south, and being six miles short of Basingstoke. It is confidently expected that in the spring of 1839 the road will be opened to Basingstoke and probably some miles beyond it on the London side, while the line will be completed at the other side as far as Winchester, and that early in 1840 the entire work will be open for both passengers and

merchandise. There are eight trains that leave the London station and an equal number that arrive in the course of the day. Four of these trains perform the whole distance now open, but the other four pass only between London and Woking Common. On Sunday there are only four trains each way, and these all pass between Shapley Heath and London. Passengers are conveyed in omnibuses to and from the station at Nine Elms from various parts of London and Westminster, and steam-boats are employed for this purpose starting from London bridge and calling to take on board or to land passengers at various points on the river between that spot and Nine Elms.

The times of departure of the trains as arranged since the opening to Shapley Heath are as follow:—

From the London Terminus, at Nine Elms	To	Shapley Heath	7½	morning.
		Woking Common	9	,,
,, ,,		Shapley Heath	10	,,
,, ,,		Weybridge	11	,,
,, ,,		Shapley Heath	3	afternoon.
,, ,,		Weybridge	4½	,,
,, ,,		Shapley Heath	5½	,,
,, ,,		Woking Common	6	,,
To the London Terminus,	From	Shapley Heath	7	morning.
,, ,,		Woking Common	9	,,
,, ,,		Shapley Heath	10½	,,
,, ,,		Weybridge	2	afternoon.
,, ,,		Shapley Heath	3	,,
,, ,,		Woking Common	4	,,
,, ,,		Weybridge	6½	,,
,, ,,		Shapley Heath	7	,,

On Sundays, the times of quitting London are at 9 and 10 in the morning, and at 2 and 6 in the afternoon. The trains on that day all go to Shapley Heath, and call at all the intermediate stations. The departures from Shapley Heath on Sundays are at 7 and 10 in the morning, and at 3 and 6 in the afternoon. The fares are:—

	Miles.	First Class.		Second Class.	
		s.	*d.*	*s.*	*d.*
London to Wandsworth	2¾	1	6	1	0
,, Wimbledon	5¾	1	6	1	0
,, Kingston	10¼	2	6	1	6
,, Ditton Marsh	12¾	3	0	2	0
,, Walton	15½	3	6	2	3
,, Weybridge	17½	4	0	2	6
,, Woking Common	22¾	5	0	3	6
,, Farnborough	31	7	6	5	0
,, Shapley Heath	38	9	0	6	0
Shapley Heath to Farnborough	7	2	0	1	6
,, Woking Common	15¼	4	0	2	6
,, Weybridge	20½	5	0	3	6
,, Walton	22½	5	6	4	0
,, Ditton Marsh	25¼	6	0	4	0
,, Kingston	27¾	7	0	5	0
,, Wimbledon	32¼	8	0	5	6
,, Wandsworth	35¼	8	6	6	0
,, London	38	9	0	6	0

It would not be possible, at the present stage of the undertaking, to give any adequate description of the works that have been executed and that are in progress of construction. Such description will be more appropriately given when the line shall be completed and in use through its whole extent. This remark will equally apply to other lines of road that are partially opened for public traffic.

Great Western Railway.—The important deviations from the usual course of proceeding adopted in the construction of this railroad, and which were fully described in the Companion for 1838, have occasioned, as might be expected, a great deal of controversy which has been by no means set at rest since the partial opening of the line. That opening, between London and Maidenhead, was made on the 4th of June, and the result, as regards one point, and that of the greatest importance, the number of passengers conveyed, has been in the highest degree satisfactory, and confirms in the completest manner the most sanguine expectations of the promoters of the undertaking. In the 17 weeks included between the 4th of June and the 30th of September, there were carried on this railway 177,774 passengers. So far as can be judged from the present limited experience, it does not appear that this encouraging result is merely the effect of novelty, since the receipts have been progressively increasing every month. In June the fares amounted to 6459*l.*; in July, to 6913*l*; in August, to 7154*l.*; and in September, to 7579*l.* The number of passengers conveyed during these months exceeds the number upon any other line of railway, and the rate of travelling is much greater. In no case is the velocity so little as 25 miles per hour, and for the most part it exceeds 30 miles per hour. It has been objected that the motion is more uneasy upon this than upon other lines, but it appears that this objection arises from some fault in the construction of the carriages, and that in some of those which are made with six wheels, while the others have only four, the passengers do not find any cause for complaint. So much controversy has been excited upon the subject, that in order to satisfy the shareholders and the public generally, the Directors have engaged two disinterested and competent engineers to examine the whole matter and to report upon it fully. In the mean while the engineers and other officers of the company are gaining experience and will doubtless be able to remedy some at least of the inconveniences which it is only reasonable to suppose would accompany this first attempt to introduce important improvements.

The estimated cost of this undertaking it is already seen will be greatly exceeded. The cost, as given in evidence before Parliament, including a liberal sum for contingencies, was 2,500,000*l.*, to which amount the subscribers were authorised to raise capital. According to a revised estimate brought forward at a recent meeting of the shareholders, it appears that this sum will be exceeded by somewhat more than 2,000,000*l.*, and in the present state of the works there cannot be any certainty that the amount given in this revised estimate will suffice for the completion of the undertaking.

There are eight trains each way daily, except on Sundays, when tnere are six. The times of starting both from London and Maidenhead are at 8, 9, 10, and 12 o'clock in the morning, and at 4, 5, 6, and 7 o'clock in the evening, on six days in the week; on Sunday the hours are 8, half-past 8, and 9 in the morning, and 5, 6, and 7 o'clock in the evening.

The last report made by the directors to the shareholders at a meeting held on August 15, 1838, does not venture to state any period at which it is probable the whole line will be opened for traffic. That report contained an estimate of the cost of the work divided into several portions, and serving to show the comparative difficulties encountered at different parts of the line. The following abstract is all that can be given here.

Portion of the Railroad.	Length in miles.	Estimated cost.
Paddington to Acton	4½	£450,226
Acton to Maidenhead	18	554,016
Maidenhead to Reading	13	548,380
Reading to Dudcot	17¼	442,105
Dudcot to Shrivenham	18½	389,210
Shrivenham to Bath	34¼	1,247,397
Bath to Bristol	11½	649,594
	117	4,280,928
Parliamentary and general expenses		280,000
Total estimated cost		£4,560,928

This sum does not include the cost of locomotive engines, nor of the carriages and wagons that will be required for carrying on the expected traffic in passengers and merchandise. These items alone have in the case of the London and Birmingham railway already caused an outlay of more than 150,000*l.*—as appears by the statement previously quoted.

The energy with which the railway system is now being carried forward in this country makes it impossible to do more in these yearly notices than to offer a description of such lines as have been either wholly or partially completed and put to use within the year. The subject is of such paramount concernment to society, acting either directly or indirectly upon every one of its material interests, that it will necessarily claim attention in these pages for several years to come, in order to do justice in any degree to its importance.

XIV.—OPERATION OF THE POOR LAW AMENDMENT ACT.

Since the passing of the Poor Law Amendment Act, it has happened that that measure has undergone as great a variety of severe trials as at another period might not have been encountered in the course of a far greater number of years. The opposition to the change was foreseen, and has been more easily overcome than was calculated upon; although three Parliamentary Committees (one of the Lords and two of the Commons) have instituted a most

searching and severe scrutiny before the organization of the system was completed. But what might not have been anticipated in the brief interval which has elapsed since 1834 has been, first, a year in which a severe epidemic occurred at the most trying season to the agricultural labourer; secondly, a season of commercial embarrassment, which occasioned great numbers of workmen in the manufacturing districts to be without employment for several months; also a long and severe winter; and since then a gradual rise in the price of food. In the midst of these difficulties the Poor Law Commissioners have discharged their important functions in a manner entitling them to the confidence of the Legislature, which, during the past year, has placed in their hands the task of carrying into effect a poor law for Ireland. Doubtless the Commissioners might have been more profitably employed, so far as the administration of the Amendment Act was concerned, in improving and perfecting its details, than in refuting before Parliamentary Committees charges of the opponents of the law, which, in the end, proved frequently unfounded; but, as the result has been to acquire the confidence of the Legislature and to extend the conviction of the just and sound principles on which the Amendment Act is founded, it is not perhaps to be regretted that the attention of the Commissioners has been thus distracted, as it will give them fuller leisure for the future to introduce those valuable ameliorations which shall strike more effectually at the roots of pauperism.

The Commissioners have taken up with warmth the question of training pauper children, of whom there are never less than 45,000 in England permanently dependent upon the Unions: they are orphans, deserted children, bastards, children of idiots, cripples, and felons; and, for the most part, their dependence is not transient. The public stands in the relation of guardian to them, and, for its own sake, is bound to see that attention is paid to their education and moral conduct. "Those who have ascertained the early history of persons, who, in a greater or less degree, have offended against the laws, have found that a large proportion have passed their infancy and youth in the workhouse; and can trace the formation of the habits which have led them to the commission of crime to the entire want of moral training in those institutions."* Encouraged by a sense of duty, and by the general disposition of the country to co-operate in the work, the Commissioners think that the time has arrived to apply themselves to that portion of their functions which relates to the education and treatment of pauper children. "We do so," they remark, "with a most cheering anticipation of a successful result." There is not, we should think, a single individual who will not wish them God speed. Competent teachers, accustomed to the best modes of imparting religious, moral, and *industrial* instruction, have already been introduced in some Unions; but it is by combining the pauper children of several Unions into one school, conducted with efficiency, that the

* Fourth Annual Report of the Poor Law Commissioners, p. 89. 8vo. C. Knight and Co.

Commissioners hope to realize their hopes of extensive improvement.

During the winter of 1837-8 the Commissioners, from motives of humanity, and at the solicitation of various Boards of Guardians, who feared the workhouse would be filled with applicants, were induced to make some relaxation in the rule prohibiting out-door relief; but experience proved that it might have been enforced without hardship. This is shown by the circumstances which took place in several Unions. The Faversham workhouse being full, and the Guardians having no means of employing a labour test, 594 individuals, including the wives and children of 139 able-bodied paupers, all belonging to the parish of Faversham, were in the receipt of out-door relief in the winter of 1837-8. At the same time, in the opposite town of Queenborough, in the Sheppey Union, an equal number of applications was made for relief, but the workhouse not being full the applicants were ordered in: not a single individual accepted relief on this condition. The Guardians, conceiving that the workhouse test might be too rigid, did not insist upon it, but required work to be performed instead—such work consisting in wheeling ballast from the sea-shore. But, under conditions which no one could term hard, relief was not accepted by any of the numerous applicants; while 549 individuals, families of able-bodied persons, were receiving relief in a parish placed in the same condition in respect to poverty, but where no test of destitution was applied. The Unions of Stamford and Peterborough, which also adjoin each other, offered a similar example of the necessity of the workhouse or some other certain test of destitution. The former Union was provided with a workhouse, but that at Peterborough was not completed. The condition of the population is similar in both Unions; the average expenditure, before their formation, having been 9*s.* per head on the population in the 37 parishes of the Stamford Union, and 9*s.* 3½*d.* in the 39 parishes comprised in the Peterborough Union. The population of the latter Union is one-fourth larger than that of Stamford. But the power of prohibiting out-door relief was possessed in one case, while the Peterborough Board were limited by the want of workhouse accommodation, and the opposite results which were produced are to be ascribed solely to the different mode in which the Poor Law Amendment Act was administered. For the week ending January 23, in the present year, there were 20 applications for relief in the Stamford Union, 10 of which were from able-bodied labourers. In the Peterborough Union, for the corresponding week, the total number of applications was 92, including 66 from able-bodied labourers. In the following week, in the Stamford Union, 23 applications, of which 14 were from able-bodied persons; and in the Peterborough Union there were 78 applications, and so large a number as 53 of the applicants were able-bodied. The amount of out-door relief allowed in the two Unions, during the two weeks above mentioned, was 92*l.* 5*s.* 3*d.* in the Stamford Union, and, had the difference of one fourth in the population alone affected the sum paid, it would have amounted to

about 115*l.* in the Peterborough Union, instead of which it reached 220*l.* In the Stamford Union the labourers were continued in employment, as their maintenance in the workhouse was a loss; but in the Peterborough Union the farmers and labourers mutually relied upon the intermediate aid of the parish-purse, and the farmer was at no pains to provide such work as would have been suitable while the frost continued.

The Commissioners have again put forth a concise view of the principles on which they act, and the objects they have in view, in enforcing the rule which prohibits out-door relief to able-bodied persons. This is one of their regulations so frequently and so unjustly condemned, that the following summary of the objections to an opposite course cannot be too widely known:—

"1. That in the practical application of this exception it would be extremely difficult to avoid the establishment of a system similar in principle to the scale-system; *i. e.* a regular allowance of an addition to the labourer's earnings, depending on the rate of wages and the number of his children.

"2. That all relief given in aid of wages has a tendency to keep down the general rate of wages, and that, as respects labourers with large families, the expectation of such relief removes the motive which has, since the passing of the Poor Law Amendment Act, and the discontinuance of this mode of relief, been found to act powerfully on the labourers and the employers, *i. e.* as respects the labourers, the desire of obtaining the highest possible earnings, by increased diligence and steadiness of conduct, and by task-work, and as respects the employer, the willingness to provide employment for the labourers of the most constant and advantageous kind.

"3. That the exceptive regulation adverted to would, so far as it might be applied, operate to break down the barrier between pauperism and independence, which it has been the object of the Poor Law Amendment Act to establish; for it would place the idle and improvident labourers on the same footing with those (of whom there are many) who, by continued industry and economy, provide for the very largest family without aid from the parish; and, in fact, with regard to this meritorious class of labourers, it would tend to discourage their exertions, inasmuch as they could not fail to perceive that it would be equally advantageous to themselves, and decidedly better for their children, that some of their children should be maintained and educated in the workhouse.

"4. That it might sanction the introduction of relief in aid of wages in Unions or parishes in which it had either ceased to exist or had not existed—a result not only highly prejudicial in itself, but inconsistent with the apparent intention of the 52nd clause of the Poor Law Amendment Act."

That part of the Report which shows by reference to the Nottingham Union the peculiar applicability of the Poor Law Amendment Act to the case of a manufacturing district during a season of stagnation, distress, and commercial embarrassment, is particularly deserving of attention; and the subject is also strikingly

illustrated by a reference to Aston and Birmingham, in which the inhabitants, though in different proportions, are placed in parallel circumstances. Both were alike affected by the depression of trade in 1837, but while in Birmingham the expenditure for the relief of the poor increased from 24,686*l.* in the year ending March 25th, 1837, to 34,825*l.* for the year immediately ensuing, or 41 per cent., the expenditure in Aston fell from 6800*l.* to 4500*l.*, being a *decrease* of 35 per cent. During the greater part of 1837 the workhouse at Aston was not in a state which enabled the Guardians fully to bring into operation the workhouse test, but they resorted to another which is next in value to it, that of an out-door labour test. The parish was not a severe taskmaster, and the work required from each able-bodied man was frequently performed between the hours of eight in the morning and four in the afternoon. In the half-year ending September, 45 paupers had been relieved in return for labour, and they received 81*l.* 2*s.*, but several of them only remained a few days. On the 25th of October there were only six receiving relief; the services of an inspector were given up, and the out-door labour test, having proved most successful in its operation, was abandoned. At Birmingham the results were widely different. The list of new or short casual cases, which is always regarded as indicative of the state of employment, increased from 152 in April to 1122 in July, whereas, both Aston and Birmingham, resembling each other in condition, and differing only in population, in the proportion of 3½ to 1, there ought to have been no more than 158 persons accepting relief. The fact that in one case a different and more efficacious system was at work alone occasioned the extraordinary disparity. A large allowance may be made for various circumstances, and yet it will be impossible not to attribute the advantage to the operation of the Poor Law Amendment Act.

The Commissioners have proceeded very gradually in introducing the new law into Yorkshire and Lancashire. Districts in these two counties, which are the seats of manufacturing industry, present many peculiarities which distinguish them from the rural counties, and some administrative modifications have been found expedient. The Commissioners have also left to the discretion of the Boards of Guardians the best mode of realizing the objects proposed in the five principal regulations ordinarily issued on the introduction of the new system.* Nevertheless all their experience has convinced the Commissioners "of the applicability to the manufacturing districts both of the principles of the Poor Law Amendment Act and the mode of administration which it prescribes." Great excitement prevailed in these districts when the law was first introduced; the public peace was disturbed in one or two instances, but, as the objects of the law have been better understood, a salutary change has taken place in public opinion. In the township of Salford, (Manchester) the opposition,

* First Annual Report, Appendix A. No. 6, p. 85.

which had been of a violent nature at first, has subsided, and the great majority of the most respectable rate-payers are satisfied with the change. The Commissioners observe:—"In no part of the manufacturing districts has a stronger degree of necessity appeared for the establishment of a Board of Guardians, in place of the management previously existing, than in the township of Salford."

The annual Reports of the Commissioners, published in a convenient form, are so extensively circulated that it is unnecessary in this place to adduce the numerous and striking instances which are brought forward for the purpose of proving the benefits, moral and pecuniary, which the Amendment Act has produced. They show—1. That the comforts of the aged and infirm are increased. 2. The industry and moral character of the poor are improved. 3. The work of improving the education of pauper children has been auspiciously commenced. All the great objects which were anticipated by the enlightened men who composed the Commission of Poor Law Inquiry have been commenced or accomplished. Those Commissioners stated, as the result of the evidence before them, "That in every instance in which the able bodied labourers have been rendered independent of partial relief, or of relief otherwise than in a well-regulated workhouse—1. Their industry has been restored and improved. 2. Frugal habits have been exerted or strengthened. 3. The permanent demand for their labour has been increased. 4. And the increase has been such that their wages, so far from being depressed by the increased amount of labour in the market, have in general advanced. 5. The number of improvident marriages has diminished. 6. Their discontent has been abated, and their moral and social condition has in every way improved."* The Poor Law Commissioners for England and Wales observe in the Report for 1837-8—"Gratifying, indeed, is it to us to feel ourselves enabled, after carrying the like principles into effect in almost every district in this country, and under circumstances of the most opposite and chequered character, to repeat the same conclusions in the same words as those of our predecessors."

During the past year, in consequence of the state of the manufacturing districts, migration has been checked. The number of migrants who have returned has not been more than 5 per cent. on the number who left the rural parishes, and the far greater part of those who have returned are in improved circumstances, and there is less fear of their future dependence on the rates. Emigration has not been active, partly in consequence of the state of Canada.

The state of organization is as follows:—Since the publication of the Third Report, 17 Unions have been formed, comprising 264 parishes, and containing a population of 392,895. The number of parishes not united is 1063, and their population is about one-sixth of the population of England and Wales, being 2,227,923. In many large towns the relief of the poor is administered under a local Act. This is the case in Chester, Exeter, Plymouth, Bristol, Can-

* Report of Commissioners of Poor Inquiry, 1834, p. 261.

terbury, Norwich, Oxford, Shrewsbury, Southampton, Coventry, Salisbury, Hull, Devonport, Manchester, Brighton, Birmingham, Leeds, the great metropolitan parishes of St. Luke, St. Pancras, St. Marylebone, St. Leonard, Shoreditch, and Islington. There are 364 parishes in Union under local Acts, and 11 single parishes have local Acts. These local Acts offer the greatest possible variety of constitution and machinery for accomplishing their objects. By some the elective system is placed on the widest basis, rejecting qualification-tests in candidates, while in other instances the principle of self-election has been adopted. The number of parishes under Gilbert's Act is 283, united in 12 Unions; 5 single parishes are under the same Act; and 400 parishes are neither in Poor Law Unions, Gilbert's Incorporations, nor under any local Act. Their geographical position and their dove-tailing into Gilbert's Incorporations or into Unions or parishes under local Acts have prevented their being *unionized*. The Commissioners require additional facilities for dissolving the Gilbert's Unions. The territorial organisation of the country under the Amendment Act is still far from complete, and all the evils which result from the introduction of a number of distinct authorities and powers of dissimilar character are experienced, amongst which may be mentioned the tendency to litigation. The number of workhouses completed and in operation is 328: there are 141 building; the Boards in 42 Unions have consented to build as many workhouses; and in 38 Unions the Guardians have been so short-sighted as not to avail themselves of this important requisite in the machinery of the new system.

In 662 Unions, comprising a population of 11,166,826, the expenditure for the year ending March 25th, 1838, was 4,254,408*l.*, being 2,551,455*l.* less than the average of the three years preceding their formation under the Amendment Act. In 200 of the above Unions, which have been in operation two years or more, a saving has been effected of 42 per cent. on a comparison of the two periods, and in 462 Unions which have been only a year in operation the saving has amounted to 35 per cent. The expenditure includes building-loans repaid, emigration and migration expenses, furniture for workhouses, repairs, and salaries of paid officers.

XV.—SAVINGS' BANKS.

The following Tables illustrate the progress and present state of Savings' Banks. The number of these institutions on the 20th of November, 1837, was 408:—in England, 398; Scotland, 9; Wales, 23; and Ireland, 78. In the twenty years ending November, 1837, the sum of 9,558,060*l.* has been paid to the trustees of Savings' Banks and Friendly Societies for interest on deposits and other charges. The amount received, during the same period, from dividends on stock or other public securities in which Savings' Banks deposits were invested, has been 8,073,963*l.*, making a difference of 1,484,096*l.* in the course of twenty years, or about

74,000*l.* on an annual average—a sacrifice on the part of the public which is well repaid by the encouragement afforded by Savings' Banks and other provident establishments to habits of economy and foresight. It is impossible on looking at the first Table not to be struck with the rapid increase in the number of depositors under 20*l.* since the passing of the Poor Law Amendment Act. In the three years ending November, 1834, the addition to this class was 28,331, while in the three subsequent years it has been 73,194. The improved system has not only supplied motives of economy, but it has afforded the means of accumulating small sums to the humbler classes generally to a greater extent than was enjoyed by them before the amendment commenced. Mr. Tufnell's Report to the Poor Law Commissioners on the Kent and East Sussex Unions presents many facts showing that the sum saved in poor's rate is expended in labour, and labour having become more productive in proportion as the labourers were emancipated from the thraldom of the parish, more than the amount saved in rates has been paid in wages. A farmer in the Battle Union paid, on the average of two years preceding the formation of the Union, 695*l.* each year for labour, and for the two years subsequent to that change 810*l.*, being an increase of 115*l.* for labour. His poor's rate had been diminished from 198*l.* to 86*l.*, showing a saving of 112*l.* as the result of the amended administration of the law, and he had consequently expended 3*l.* more in labour than had been saved by the poor-rate. In another case, the sum paid in labour had increased from 793*l.* to 894*l.* a-year; in a second from 792*l.* to 930*l.*; in a third from 700*l.* to 762*l.* The old system was so deeply injurious to the farmers as to involve many of them in debt, and they are now employing the means which the diminution of poor's rates places in their hands for reducing their incumbrances; but even under these circumstances the benefit to the labourer is nearly the same. The increase of members of Friendly Societies is also a gratifying indication, and may also be chiefly traced to the effects of the Poor Law. A reference to the first Table shows the progress of these institutions since 1830. Mr. Tufnell (p. 221 of his Report) gives the number of members of two Societies in Kent and one in Sussex for the last two years, from which it appears that one Society had for the three years preceding 1835 an average number of 56 members, which had been increased to 70 in the three following years, the number in 1837 being 98. One of the Societies in Kent had 365 members on an average of the years 1832-3-4, which had been increased to an average of 417 for the three following years, the number of members being 478 in 1837. The other Society had 533 members in 1834 and 770 in 1837. In 1834 the amount deposited in sums under 20*l.* by Friendly Societies in Savings' Banks in Kent was 94,918*l.*, and in those of Sussex, 45,897*l.*; and in 1837 they had respectively increased to 110,156*l.* and 51,409*l.** These two were counties which had been most deeply immersed in pauperism.

* Fourth Annual Report of Poor Law Commissioners, 8vo. ed. pp. 215, 216.

I.—Number of Depositors and Amount invested in Savings' Banks in the United Kingdom on 20th November, 1830; and Increase or Decrease of the same during each Year, ending November 20th, 1831-2-3-4-5-6 and 1837; with Additions to the latter Year of Returns received up to July 1838:—

DEPOSITORS.

	No. of Depositors. 1830	1831	1832	1833	1834	1835	1836	1837-8	Total Increase or Decrease.
Not exceeding £20	215,010	7,954	4,147	17,415	16,769	20,278	27,644	25,272	119,479
——— 50	119,479	1,579	1,014	12,054	11,721	9,900	14,710	7,195	58,173
——— 100	55,103	216*	1,535*	3,111	3,849	4,584	5,062	2,910	17,765
——— 150	18,907	152*	287*	945	791	1,182	1,446	1,307	5,132
——— 200	8,057	452	197	849	868	658	975	418	4,417
Exceeding 200	4,573	580*	425*	194*	156*	70*	80*	30*	1,535*
Individual Depositors	421,129	9,037	3,111	34,080	33,842	36,532	49,757	37,072	203,431
Charitable Institutions	2,148	364	371	613	355	469	757	638	3,567
Friendly Societies	4,553	102	501	165	256	400	419	397	1,238
No. of Accounts	427,830	9,503	2,98 1	34,858	34,453	37,401	50,933	38,107	208,136

DEPOSITS.

	Deposits including Interest. 1830	1831	1832	1833	1834	1835	1836	1837-8	Total Increase or Decrease.
Not exceeding £20	£1,546,738	£90,662	£22,393*	£121,219	£114,231	£136,887	£168,425	£135,702	£744,733
——— 50	3,666,904	21,017	55,523	369,197	355,712	306,370	449,496	217,712	1,775,027
——— 100	3,768,577	25,210*	95,267*	213,819	268,605	325,768	329,318	214,454	1,231,487
——— 150	2,264,436	19,449*	33,453*	105,086	96,559	157,070	158,425	158,209	622,447
——— 200	1,378,800	60,210	34,466	137,417	154,040	119,569	163,972	76,927	746,601
Exceeding 200	1,103,634	116,412*	97,023*	41,950*	41,907*	17,606*	26,254*	10,188*	351,340*
Individual Depositors	13,729,089	10,818	158,147*	904,788	947,240	1,028,058	1,243,382	792,816	4,768,955
Charitable Institutions	173,735	3,601*	34,778	16,330	28,191	26,540	46,674	11,013	167,127
Friendly Societies	714,112	35,778*	106,906*	32,328	15,341	46,977	60,068	58,967	70,997
No. of Accounts	£14,616,936	£21,359*	£230,275*	£953,446	£990,772	£1,101,575	£1,350,124	£862,796	£5,007,079

* The Decrease is marked by an Asterisk.

II.—Summary of the Number of Depositors and Amount of Deposits as they existed on the 20th of November, 1837, in England, Scotland, Wales, and Ireland.

	ENGLAND.			SCOTLAND.			WALES.			IRELAND.			TOTAL.		
	Number of Depositors.	Amount of Investments.	Average Amount invested by each Depositor.	Number of Depositors.	Amount of Investments.	Average Amount invested by each Depositor.	Number of Depositors.	Amount of Investments.	Average Amount invested by each Depositor.	Number of Depositors.	Amount of Investments.	Average Amount invested by each Depositor.	Number of Depositors.	Amount of Investments.	Average Amount invested by each Depositor.
		£.	£.		£.	£.		£.	£.		£.	£.		£.	£.
Not exceeding £20 . .	286,888	1,951,776	7	10,814	62,692	6	6,862	54,119	8	29,925	222,884	7	334,489	2,291,471	7
,, ,, 50 . .	147,501	4,529,663	31	2,272	61,716	27	4,350	132,614	30	23,529	717,938	31	177,652	5,441,931	31
,, ,, 100 . .	63,703	4,383,178	69	258	17,964	70	1,638	112,007	68	7,269	486,915	67	72,868	5,000,064	69
,, ,, 150 . .	21,774	2,618,987	120	7	758	108	440	52,898	120	1,818	214,240	118	24,039	2,886,883	120
,, ,, 200 . .	11,608	1,978,889	170	1	154	154	203	34,643	171	662	111,715	169	12,474	2,125,401	170
Above . . 200 . .	2,879	715,206	248	..	..	..	64	14,869	232	95	22,219	234	3,038	752,294	248
Total 20th Nov. 1837	534,353	16,177,699	30	13,352	143,284	11	13,557	401,150	30	63,298	1,775,911	28	624,560	18,498,044	30
Number and Amount of Charitable Institutions	4,909	287,727	58	133	4,956	37	115	7,793	68	558	40,386	72	5,715	340,862	60
,, Friendly Societies	5,187	712,615	137	68	12,662	186	291	46,903	161	245	12,929	53	5,791	785,109	136
Total	544,449	17,178,041	..	13,553	160,902	..	13,963	455,846	..	64,101	1,829,226	..	636,066	19,624,015	..

III.—State of SAVINGS' BANKS in each County in England on 20th November, 1837, exhibiting the Number of Depositors of Sums under 20*l.*, and the Amount invested; the total Number of Depositors, with the total Amount invested; the average Sum invested by each Depositor; with the Number and Investments of Charitable Institutions and Friendly Societies.

COUNTIES.	Depositors not exceeding £20.		Amount invested in sums under £20.	Total Number of Depositors.	Total Amount Invested by Individual Depositors.	Average Amt. invested by each Depositor.	Charitable Institutions.		Friendly Societies.	
	No.		£.	No.	£.	£.	No.	£.	No.	£.
Bedford	1,076		7,987	2,114	72,049	34	40	2,174	76	6,795
Berks	5,089		37,192	9,133	285,537	31	130	6,424	57	8,825
Bucks	1,873		13,027	3,392	98,198	29	49	1,506	58	7,176
Cambridge	1,032		8,117	2,238	77,724	35	75	4,225	73	10,072
Chester	5,144		40,549	11,492	426,208	37	127	8,503	152	30,190
Cornwall	3,483		28,869	9,005	362,284	40	70	4,756	82	16,789
Cumberland	2,701		21,801	5,410	164,933	30	39	2,294	23	3,191
Derby	3,029		23,538	6,687	236,459	35	52	2,367	166	18,991
Devon	20,410		125,497	35,594	1,098,004	31	300	23,749	362	56,008
Dorset	3,227		25,798	7,317	288,662	39	103	4,659	92	17,649
Durham	2,431		17,965	4,873	141,206	29	29	1,976	49	2,968
Essex	5,703		40,111	10,274	320,631	31	222	9,337	194	18,983
Gloucester	9,313		66,689	18,523	628,910	34	197	10,498	181	23,860
Hants	5,282		39,733	10,770	370,051	34	130	7,098	132	24,070
Hereford	3,372		23,668	5,823	151,954	26	71	4,415	23	3,389
Hertford	1,139		9,122	2,295	76,098	33	101	6,175	55	7,294
Huntingdon	715		4,683	1,196	32,924	28	44	2,325	48	4,773
Kent	12,506		86,194	22,149	629,083	28	284	14,444	188	23,962
Lancaster	19,807		151,584	40,519	1,317,534	33	376	26,218	719	88,618
Leicester	2,095		16,798	3,878	111,165	29	95	2,789	74	6,218
Lincoln	6,104		44,336	11,150	313,388	28	123	5,523	77	10,976
London	18,396		83,948	27,851	610,722	22	23	2,072	31	1,645
Middlesex	47,200		288,362	81,841	2,153,300	26	237	12,883	170	15,918
Monmouth	1,258		8,663	2,295	57,284	25	19	681	78	11,566
Norfolk	5,857		42,094	10,847	316,406	29	109	3,584	116	9,751
Northampton	3,115		21,547	5,732	176,295	31	104	5,140	97	10,747
Northumberland	3,611		31,800	8,805	344,506	39	52	3,300	71	11,197
Notts	6,487		39,784	11,183	304,389	27	25	3,898	245	19,410
Oxford	3,875		25,569	6,805	193,160	28	123	5,349	102	11,479
Salop	6,134		46,745	12,664	450,171	36	128	11,753	116	25,362
Somerset	7,367		55,549	15,233	538,206	35	254	22,543	128	21,159
Stafford	5,334		37,659	10,296	311,723	30	131	6,568	193	38,462
Suffolk	3,892		28,457	7,208	217,915	30	128	5,457	136	14,409
Surrey	12,096		74,642	19,804	498,177	25	90	7,710	105	14,112
Sussex	6,847		43,038	11,565	307,819	27	136	7,039	61	8,371
Warwick	6,795		36,927	10,824	246,434	23	84	4,624	93	11,249
Westmoreland	456		3,315	884	26,253	30	..	..	4	715
Wilts	4,025		33,054	8,655	316,825	37	168	7,862	79	10,382
Worcester	4,581		34,344	9,111	309,827	34	98	5,116	79	7,130
York	24,031		183,021	48,918	1,595,185	33	343	20,693	402	78,764
Total 1837	286,888		1,951,776	534,353	16,177,699	30	4,909	287,727	5,187	712,615
„ 1836	268,080		1,863,156	506,273	15,552,883	31	4,389	280,642	4,782	658,424
Increase	18,808		88,620	28,080	624,816	1*	520	7,085	405	54,191

XVI.—SALE OF BEER.

The following Tables exhibit—I. The progress of the Beer Trade since 1830, showing the respective operations of brewers, distinguishing those of London; also of licensed victuallers, and of beer-sellers licensed under 1 Wm. IV., c. 64, and 4 and 5 Wm. IV., cap. 85. Table II. shows the local state of the trade of brewers and licensed victuallers in each Collection* in England and Wales. Table III. relates to the operation of the licensed beer-sellers in the different Collections.

In making use of the following tables one or two points for consideration offer themselves. In 1830, the duties on ale and beer were repealed by 1 Will. IV. c. 51.† In the same year, another act of even greater importance, not only to the traders in ale and beer, but to the community generally, received the sanction of the Legislature. This was the Act 1 Will IV. c. 64,‡ entitled "An Act to permit the general sale of beer and cider by retail in England." Under its provisions, which came into operation on the 10th of October, 1830, any person could obtain a license to sell ale, beer, and porter by retail. Previously, the justices of the peace were alone empowered to grant licenses for the sale of malt liquor. In 1828, the licensing system underwent revision, and an Act was passed (9 Geo. IV. c. 61) calculated to diminish the possible abuses of the controlling power exercised by the magistracy.§ The right of appeal against any act of the magistrates was enlarged, and the decision rested with another tribunal which could not be suspected of partialities. Two years afterwards, by the Act 1 Will. IV. c. 64, above mentioned, another class of dealers in beer was created, independent of the magistracy, and deriving their privilege from an excise license costing two guineas, and renewable annually. In 1834, an act was passed (4 & 5 Will. IV. c. 85,‖) introducing some new regulations, which ought perhaps to have been considered necessary from the first opening of a new trade so liable to be misconducted as that of the sale of fermented liquors. Each beer-seller was in future to obtain his license only on condition of placing in the hands of the Excise a certificate of good character from six of the rated inhabitants of his parish, none of whom were to be maltsters, brewers, or other interested parties. In towns containing a population of 5000 and upwards the certificate was not required, the qualifications being the occupation of a house rated at 10*l.* a-year. In most of the parliamentary boroughs therefore the licensed retailers of beer are in possession of the elective franchise. The act of 1834 introduced a distinction in the trade, recognising a difference between those who sold ale, beer, and porter for consumption on their premises, and those who sold it only to be consumed elsewhere.

That the houses of the licensed retailers of beer may not always have been conducted so well as could be desired is quite true; and latterly the grounds of complaint have been accumulating against them in a manner which threatens their existence. If new powers of control be required to compel the observance of the law, it is easy for the Legislature to grant them without proceeding so far as to give up a principle which it is worth while being at some pains to show is perceptible of being acted upon with advantage. If midnight robberies are planned at the beer-shops by men who afterwards retire to them to divide their booty, give the police greater facilities of access to such place, and at the same time

* The limits of each collection are defined in the Comp. to Alm. for 1837, p. 73.
† Comp. to Alm. for 1831, p. 151. ‡ Ibid, p. 153.
§ Ibid. for 1829, p. 168. ‖ Ibid. for 1835, p. 158.

improve the rural police. For mere police purposes, it is an advantage that the resort of rogues and worthless characters should be accessible, rather than they should be compelled to harbour in the cottage of any of the gang, by which they might more effectually baffle suspicion. But the beer-shops have been a convenience and an advantage to the agricultural labourers and to the deserving poor, many of whom no more find it convenient to brew their own beer than individuals in a different station to kill their own meat. This being the case, the next best thing is to give the labourer facilities for procuring malt liquor, and to promote such a degree of stimulus amongst the dealers as induces them to obtain custom by the supply of a wholesome beverage. The licensed retailers of beer have been placed in such a position. A reference to Table III shows that in every part of England their number has increased. It has now probably reached a point at which it will remain nearly stationary.

In the preceding notice of Savings' Banks it has been stated that larger sums have been paid in wages within the last three years than before the passing of the Poor Law Amendment Act; and that in consequence there has ensued a large increase in the numbers of depositors and of members of friendly societies. No doubt also in many cases the standard of the labourer's diet has been raised, and he no longer goes a-field with a crust of dry bread washed down by water or *cold tea* as his only support during the day, but is enabled to supply himself with a beverage which renders his humble fare rather more grateful. The diminution of beer-shops as an accompaniment of the changes effected by the Poor Law Amendment Act would be rather a matter of regret than otherwise. But in those 'collections' in which the new system has effected the greatest improvements, beer-shops have been increased in number. In Essex, Suffolk, Uxbridge, York, Lincoln, and several other agricultural districts, there was in 1837 an increased comsumption of malt, though on the total consumption of England there was a diminution to the extent of 1,661,043 bushels. Since 1838, the increase of Beer-shops in England has been 31. 22, per cent. and in Kent and Sussex 30. 90 per cent. From these two counties we have gratifying statements of the growth of provident habits, and there is nothing in this statement which is inconsistent with the increase of properly-regulated places for the sale of beer by retail dealers. Crime has also diminished.* The proportion of offenders was 9 per cent. less in 1837 than in any previous year since 1830; and yet the beer-shops have increased from 1508 in 1834, to 1974 in 1837; the number of licensed victuallers and licensed retailers together having been 3907 in 1834; 4205 in 1835; 4447 in 1835; and 4496 in 1837.

It has been stated that in 1837 there was a diminished consumption of malt for brewing purposes to the extent of 1,661, 043 bushels. The diminution was 416,748 bushels, or not quite 2¼ per cent., on the proportion consumed by brewers; nearly 10 per cent.. or 793,203 bushels, on the quantity consumed by licensed victuallers; and nearly 14 per cent., or 452,098 bushels, on the consumption of licensed retailers who brew. It will be observed on reference to Table I. that the consumption of the brewers has lately increased beyond its former proportion. The demand of the licensed retailers is chiefly supplied through the large brewers, as two-thirds of them do not brew themselves, while about one-half of the victuallers brew their own beer. Within reach of London, the supply of he licensed retailers has had some effect in preserving the consumption of the metropolitan brewers from fluctuation.

* Fourth Annual Report of Poor Law Commissioners, 8vo. edition.

	1831	1832	1833	1834	1835	1836	1837
Brewers, No.	1,654	1,753	1,814	1,907	2,099	2,207	2,269
——— in London, No.	115	108	98	102	106	110	107
Malt consumed by Brewers, bushels	14,261,961	13,891,851	14,499,283	15,837,409	16,412,440	17,181,061	16,765,313
——— in London, bushels	4,427,385	4,293,548	4,575,375	5,177,291	5,147,246	5,678,619	5,641,470
Licensed Victuallers, No.	50,547	50,796	52,611	53,207	54,551	55,192	55,751
——— who brew, No.	23,889	24,293	25,125	25,483	25,962	26,559	26,867
Malt consumed by Licensed Victuallers, bushels	9,014,911	8,898,789	9,012,706	9,373,026	9,521,797	9,605,320	8,812,117
*Persons licensed for sale of Beer, No.	31,937	30,917	33,451	35,354	39,654	44,134	45,394
——— who brew, No.	13,446	13,102	,,	14,698	15,827	16,732	16,812
*Malt consumed by do., bushels	2,985,306	3,093,519	3,284,984	3,734,288	3,921,033	4,135,416	3,683,324
Persons licensed for sale of Beer not to be drunk on the Premises, No.	,,	,,	,,	,,	4,118	5,030	5,292
——— for do. who brew, No.	,,	,,	,,	,,	987	1,128	1,202
Malt consumed by last-mentioned class, bushels	,,	,,	,,	,,	218,616	325,749	335,944
Licensed Victuallers who filed Petitions in Insolvent Court:—Average of 1829–30–31—406	441	,,	,,	,,	293	278	371
Beer Sellers, No.	,,	,,	,,	,,	129	159	224
——— convicted of purchase or sale of Spirits, No. 2	,,	,,	,,	,,	,,	174	174
——— of adulterating Beer, No.	,,	,,	,,	,,	3	6	2
Licensed Victuellers, No.	,,	,,	,,	,,	15	108	79

* Including both classes of Licensed Retailers.

II.—Licensed Victuallers in 1832 and 1837, and their Consumption of Malt.

Collections.	Licensed Victuallers. No.		Licensed Victuallers who brew their own Beer. No.		Bushels of Malt consumed by Licensed Victuallers.		Bushels of Malt consumed by Brewers.	
	1832.	1837.	1832.	1837.	1832.	1837.	1832.	1837.
Barnstaple	571	617	539	580	133,868	124,620	1,654	3,150
Bath	589	569	355	358	288,363	266,047	384,490	307,425
Bedford	646	679	247	258	89,403	90,282	184,982	200,312
Bristol	632	704	434	492	279,484	288,862	192,099	217,284
Cambridge	869	1,090	167	180	115,812	107,010	300,083	333,848
Canterbury	631	711	21	24	4,752	5,781	245,500	276,693
Chester	847	939	553	636	148,645	145,459	93,893	105,103
Cornwall	607	655	445	474	137,686	142,557	67,025	103,731
Coventry	1,240	1,389	1,115	1,255	423,747	421,706	74,538	101,670
Cumberland	1,266	1,316	201	203	46,703	41,556	34,373	107,880
Derby	965	1,099	944	1,027	479,475	430,840	23,466	51,143
Dorset	367	385	223	240	101,020	86,754	121,536	104,431
Durham	1,437	1,570	152	191	64,221	63,366	163,207	229,335
Essex	627	639	137	154	73,154	87,933	173,262	156,765
Exeter	613	675	473	524	235,490	200,902	75,835	51,360
Gloucester	644	698	497	538	163,823	158,932	120,575	118,083
Grantham	1,075	1,109	416	443	179,854	185,894	270,367	251,398
Halifax	1,003	1,195	889	1,030	246,906	240,904	162,863	200,956
Hants	689	701	51	67	25,108	33,514	203,727	203,379
Hereford	586	666	573	633	123,854	109,297	12,244	15,449
Hertford	721	735	55	54	34,382	31,681	342,675	333,499
Hull	870	907	144	155	31,454	48,780	204,155	235,864
Isle of Wight	555	585	71	95	30,762	52,741	181,289	197,434
Lancaster	920	1,037	704	818	240,056	257,901	117,942	101,866
Leeds	998	1,100	904	981	346,168	386,528	99,957	142,901
Lichfield	864	966	823	930	558,730	546,340	75,591	74,349
Lincoln	790	884	595	673	173,120	163,289	108,064	140,644
Liverpool	1,610	1,726	167	277	80,939	93,757	671,825	973,200
Lynn	735	815	91	107	43,497	42,514	234,510	229,980
Manchester	1,343	1,346	817	843	547,850	498,227	373,264	556,362
Newcastle	1,470	1,418	157	162	148,402	157,209	247,721	354,143
Northampton	1,013	1,087	814	863	214,764	232,703	62,933	94,649
Northwich	968	1,056	648	741	218,337	230,935	112,711	124,039
Norwich	1,050	1,106	43	59	20,714	28,274	237,614	341,773
Oxford	816	856	494	506	146,600	143,030	184,484	138,191
Plymouth	765	829	396	426	120,740	104,218	139,953	169,786
Reading	814	822	47	52	15,373	28,916	483,175	400,620
Rochester	1,056	1,076	32	30	12,507	12,589	377,767	450,645
Salisbury	574	602	282	307	203,114	176,502	229,922	201,315
Salop	022	589	614	572	271,981	217,671	6,997	14,218
Sheffield	1,83	1,128	901	870	250,335	294,948	116,588	247,462
Stafford	735	767	607	681	193,390	185,523	233,195	235,773
Stourbridge	890	1,059	876	1,022	323,718	391,351	2,160	48,790
Suffolk	676	691	237	284	148,270	141,451	76,660	82,028
Surrey	820	851	2	7	427	2,763	618,814	770,697
Sussex	669	734	88	81	22,273	25,109	408,541	397,826
Uxbridge	946	995	125	130	53,733	61,129	286,581	349,534
Wales, East	1,197	1,491	1,128	1,339	227,601	245,173	63,755	113,222
„ Middle	719	808	707	752	111,080	106,747	308	..
„ North	225	1,128	751	806	157,677	110,344	27,271	55,314
„ West	1,088	1,373	988	1,288	119,089	129,837	9,871	10,408
Wellington	453	456	337	337	132,327	84,232	98,052	81,569
Whitby	866	1,265	311	371	56,519	73,700	94,838	103,921
Worcester	490	518	473	500	166,874	149,897	10,747	11,597
York	1,090	1,142	410	415	85,084	98,200	145,724	170,829
Country Collections.	46,405	51,354	24,271	26,841	8,869,255	8,786,426	9,598,303	11,123,843
London	4,391	4,397	22	26	29,534	25,691	4,293,548	5,641,470
Total England	50,796	55,751	24,293	26,867	8,898,789	8,812,117	13,891,851	16,765,313

III.—Licensed Beer Sellers in 1834 and 1837, and their Consumption of Malt.

Collections.	Licensed Beer Sellers. No.			Licensed Beer Sellers who Brew. No.			Bushels of Malt consumed by		
			Not to be drunk on the Premises. *			Not to be drunk on the Premises. *	Licensed Beer Sellers.		Not to be drunk on the Premises. *
	1834.	1837.	1837.	1834.	1837.	1837.	1834.	1837.	1837.
Barnstaple	370	447	26	331	412	24	50,592	50,328	4,070
Bath	605	821	245	254	280	29	80,371	77,523	6,008
Bedford	424	618	147	117	135	44	49,081	54,311	5,532
Bristol	586	827	123	154	195	12	30,772	39,771	9,921
Cambridge	802	1,199	238	159	199	44	62,652	75,589	4,848
Canterbury	368	472	72	36	36	4	50,446	29,429	1,451
Chester	566	566	20	315	306	10	49,340	29,396	1,287
Cornwall	588	863	79	263	302	5	74,240	68,676	19,104
Coventry	762	1,134	118	531	721	47	120,619	130,940	5,053
Cumberland	525	543	47	83	101	38	128,167	100,714	89,376
Derby	660	919	81	512	626	16	126,950	131,169	1,613
Dorset	514	664	204	148	158	47	20,764	10,279	2,932
Durham	317	411	29	10	17	1	2,703	7,929	724
Essex	361	407	160	119	122	49	26,856	27,532	5,038
Exeter	282	302	24	108	112	..	16,342	17,154	..
Gloucester	1,016	1,253	182	701	707	48	106,043	100,560	6,710
Grantham	815	1,140	82	175	227	16	57,527	56,535	5,079
Halifax	1,630	1,973	111	1,178	1,376	51	163,888	167,766	2,326
Hants	614	786	175	185	215	31	102,640	103,697	5,760
Hereford	383	376	7	343	351	1	30,120	30,031	28
Hertford	426	570	52	53	54	6	39,561	38,162	3,176
Hull	352	408	49	10	10	7	3,526	2,445	1,149
Isle of Wight	437	550	104	180	197	31	82,117	72,829	5,201
Lancaster	1,028	1,024	36	347	355	5	121,179	80,575	7,058
Leeds	914	1,237	94	569	729	35	109,503	119,275	3,260
Lichfield	739	1,096	55	648	845	18	289,307	320,654	11,219
Lincoln	492	591	97	164	189	20	34,448	34,974	3,609
Liverpool	1,087	1,725	46	77	74	..	30,401	26,470	..
Lynn	576	658	162	68	74	15	34,036	23,750	7,214
Manchester	2,067	3,438	272	886	1,080	79	227,089	182,634	8,705
Newcastle	250	308	12	2	1	..	584	536	..
Northampton	608	753	171	320	360	55	62,842	67,445	7,106
Northwich	863	983	56	273	295	9	48,636	44,750	1,816
Norwich	355	399	77	47	53	19	12,817	17,757	7,112
Oxford	446	517	117	220	222	34	36,413	32,743	2,145
Plymouth	404	433	49	70	69	7	21,850	23,121	6,191
Reading	777	965	157	86	90	18	41,340	48,948	14,576
Rochester	461	741	125	50	50	3	38,581	31,290	157
Salisbury	428	641	166	192	189	45	49,514	56,547	11,075
Salop	418	536	31	410	384	13	106,958	98,485	1,286
Sheffield	940	989	82	264	285	..	41,979	40,872	..
Stafford	783	983	32	486	633	23	103,964	98,063	1,850
Stourbridge	1,021	1,448	64	980	1,399	27	230,091	290,505	4,896
Suffolk	430	495	159	201	230	70	65,263	54,570	11,362
Surrey	512	751	100	56	63	12	49,648	52,647	7,266
Sussex	679	761	147	124	136	23	30,207	31,571	5,211
Uxbridge	729	1,070	151	52	57	19	23,240	29,272	8,753
Wales, East	1,078	1,317	9	749	808	..	95,615	91,056	..
„ Middle	261	227	5	241	225	5	29,835	21,542	460
„ North	506	350	11	156	92	..	32,752	10,128	..
„ West	189	59	8	166	51	1	14,985	5,318	22
Wellington	605	599	103	199	209	21	26,964	25,522	745
Whitby	279	297	12	44	66	..	6,489	7,055	..
Worcester	387	504	85	344	394	47	56,901	59,253	4,229
York	566	525	62	116	133	9	29,211	22,712	2,470
Country Collections	34,281	43,669	5,128	14,572	16,696	1,193	3,557,959	3,492,806	326,179
London	1,073	1,725	164	126	116	9	176,329	190,518	9,765
Total, England	35,354	45,394	5,292	14,698	16,812	1,202	3,734,288	3,683,324	335,944

* Included in the preceding column for the greater convenience of comparison with the year 1834, at which period this class of retailers was not separately distinguished.

To the effects of the Sale of Beer Act already detailed, may be added that of having kept up the demand for malt against a tendency to the increased consumption of spirits. The number of acres of land applied to the cultivation of hops has increased from 49,187 acres in 1833 to 56,323 in 1837, being an increase of 7136 acres in five years. The increase in Kent and Sussex has been 4967 acres; thus giving employment by the minute labours which the cultivation of the hop requires to many who were formerly supported by the parish, and whose labour would not have been readily absorbed, but for this extension of their growth. The following statement shows the number of acres cultivated with hops; the quantity of barley malted; also the quantity consumed by brewers, victuallers, and beer-sellers:—

	Acres in Hops.	Malt charged with Duty.	Malt consumed for Brewing.
1833	49,187½	33,789,009 Bushels	26,796,973 Bush.
1834	51,273	34,449,646	28,944,723
1835	53,816	36,078,856	29,855,270
1836	55,422¼	37,196,998	30,921,797
1837	56,323	33,692,352	29,260,754

The districts in which the diminution of 1837 was experienced show that it was almost entirely owing to the shock given to manufacturing prosperity by the crisis of 1837:—

Collections.	Diminished consumption of Brewers.	Licensed Victuallers.	Licensed Retailers.
Lancaster	14,474	14,871	24,970
Coventry	22,083	41,690	21,990
Stafford	20,653	12,384	12,793
Birmingham	20,585	44,522	35,522
Nottingham	86	64,405	14,899
Halifax	13,014	33,519	25,115
Leeds	35,809	79,919	15,789
Liverpool	113,781	8,421	2,267*
Manchester	124,668	174,551	8,073
Stourbridge	9,418	13,552	

* Increase.

XVII.—BANKRUPTCY ANALYSIS.

From November 1, 1837, to November 1, 1838.

Agents, 5. Ale, Beer, and Porter Dealers, 3. Architects, 2. Auctioneers, 6. Bakers, 5. Beer-shop Keepers, 6. Bell-hanger, 1. Blacksmith, 1. Booksellers, 10. Brassfounders, 4. Brewers, 15. Brickmakers. 6. Bricklayers and Masons, 7. Brokers 11. Brushmakers, 2. Builders, 37. Butchers, 14. Cabinet Makers, 12. Calico Printers, 3. Cardmakers, 4. Carpenters and Joiners, 16. Carpet Manufacturers, 2. Carpet Merchants, 2. Carrier, 1. Carver and Gilder, 1. Cattle and Sheep Salesmen and Dealers, 11. Chandlers, 2. Cheesemongers, 4. Chemists and Druggists, 23. Coachmakers, 6. Coach Proprietors, 6. Coal Merchants, 11. Coalmaster, 1. Coffee-house Keepers, 2. Colourmen, 2. Comb Maker, 1. Cooper, 1. Corn Merchants and Dealers, 22. Cotton Spinners and Manufacturers, 17. Cotton-yarn Dealer, 1. Cotton Dealer. 1. Cow-keeper, 1. Curriers, 10. Cutlers, 2. Distiller, 1. Drapers, 45, Drysalters, 3. Dyers, 3. Dye-wood Grinder, 1. Eating-house Keeper, 1. Engineers, 6. Farmers and Graziers, 8. Feather-bed Maker, 1. Flax and Tow Spinners, 2. Fruiterer, 1. Glass Makers, 4. Glass Cutter, 1. Glass and China Dealers, 2. Goldsmiths, 2. Grocers, 58. Gun Makers, 2. Hallier, 1. Harp Maker, 1. Hat Manufacturers and Hatters, 7. Hawker, 1. Hay Dealers, 2. Hop Factors, 4. Horse Dealers, 5. Hosiers, 4. Iron Masters, 4. Iron Merchant, 1. Iron Founders, 11. Ironmonmongers, 20. Isinglass Dealer, 1. Japanner, 1, Jewellers, 3. Lace Manufacturers, 8. Lace Dealer, 1. Lamp Makers, 2. Law Stationer, 1. Leather-dressers, 3. Leather Factors and Sellers, 5. Linen Manufacturer, 1. Linen Factor, 1. Livery-stable Keepers.

2. Lodging-house Keepers, 6. Machine Makers, 4. Maltsters, 7, Manufacturers of various articles:—Anatto, 1; Bombazin, 1; Britannia Metal Ware, 1; Braces, 1; China, 1; Chain, 1; Earthenware, 1; Flannel, 1; Fancy Goods, 1; Fringe, 1; Gloves, 1; Grith Webb, 1; Muslin, 1; Ochre, 2; Riband, 1; Snuff, 1; Spades, 1; Steel Pens, 1; Stocks, 1; Tarpaulin, 1. Marble Masons, 2. Mercers, 7. Merchants, 35. Millers, 11. Milliners, 2. Music Seller, 1. Musical Instrument Maker, 1. Nail Manufacturers, 3. Nursery and Seedsmen, 4. Oilmen, 2. Optician, 1. Painters, 2. Paper Makers, 4. Paper Merchant, 1. Paperhanger, 1. Perfumers, 3. Plater, 1. Plumbers, 6. Poulterer, 1. Printers, 8. Print Sellers, 2. Provision Agents, 2. Provision Dealers, 2. Road Makers and Rail-road Contractors, 4. Ropemakers, 2. Saddlers, 2. Sawyer, 1. Schoolmasters, 3. Scriveners, 10. Sculptor, 1. Ship Builders, 2. Ship Chandlers, 2. Ship Owner, 1. Shoemakers, 5. Shop Keepers, 13. Silk Throwsters, 3. Silk Merchants, 3. Silk Dyer, 1. Stationers, 9. Steelyard Maker, 1. Stone and Limestone Dealers and Quarriers, 3. Straw-Plait Dealer, 1. Surgeons, 12. Tailors, 18. Tanners, 7. Tea Dealers, 2. Timber Merchants, 10. Tobacconists, 3. Toy Man, 1. Trunk Maker, 1. Turner, 1. Underwriter, 1. Upholsterers, 6. Victuallers, 85. Warehousemen, 10. Watch Makers, 4. Watch-case Maker, 1. Wharfingers, 2. Wheelwright, 1. Wine and Spirit Merchants, 24. Woolstaplers, 4. Woollen Cloth Manufacturers and Clothiers, 16. Woollen-Cloth Merchants, 3. Woollen Drapers, 10. Worsted Dealer, 1. Worsted Manufacturer, 1. Worsted Spinners, 3. Total—956. Total corresponding period 1836-7—1462.

XVIII.—NECROLOGICAL TABLE

OF LITERARY MEN, ARTISTS, AND PUBLIC CHARACTERS.

			Age
1837.	Sept. 12.	Dr. Fred. Rosen, Sanscrit Literature	32
	Nov. 4.	Baron Alibert, Medicine and Physiology.	
	Dec. 3.	Duvivier, Historical Painter.	
	5.	Rev. Dr. Marshman, Chinese Literature	69
	7.	Alfred Johannot, French Artist.	
	10.	Jacob Götz, Numismatics	81
	16.	Boris Ivanovitch Orlovsky, Russian Sculptor	44
	18.	Phil. Audinet, French Engraver	71
	29.	Rev. Dr. Mavor, Educational Works	80
	30.	Tardieu, French Engraver.	
1838.	Jan. 13.	Earl of Eldon, Law	87
	26.	Marquis Sommariva, Fine Arts.	
	—	Ferdinand Ries, Composer	55
	Feb. 7.	Joseph Grassi, Historical and Portrait Painter.	
	21.	Silvestre de Sacy, Orientalist	80
	21.	Von Kohler, St. Petersburg, Archæologist and Artist	75
	24.	Prof. C. H. L. Politz, Statistics and History.	
	Mar. 4.	Von Hauch, Copenhagen, Fine Arts	83
	12.	Rev. R. Polwhele, Topography and Poetry	78
	12.	Laboullanger de Boistre, Sculptor and Painter.	
	28.	T. Morton, Dramatist	74
	April 1.	C. Duverger, Architect	39
	5.	— Castillan, Landscape Painter	66
	9.	— Fauvel, Antiquary	85
	12.	Dr. Mohler, Munich, Theology, &c.	
	17.	Baroness Schoppenhauer, Novelist, &c.	68
	—	Andrew Ashe, Musician.	82
	19.	Franz Lud. von Haller, History of Switzerland, &c.	82
	May 17.	Prince de Talleyrand, Diplomatist	84

		Age
May 19.	Sir Richard Colt Hoare, Antiquary	80
June —	Duchesse d'Abrantes, Memoirs, &c.	
July —	Rev. Dr. Jamieson, Philology	80
Aug. 20.	Adalbert von Chamisso, Poetry and Nat. History	55
—	Dr. C. Cicognani Capelli, Mathematics and Physics	55
Sept. 10.	Percier, French Architect.	
Nov. —	Mrs. Grant of Laggan, 'Letters from the Mountains,' &c.	84

PART III.

THE LEGISLATION, STATISTICS, PUBLIC IMPROVEMENTS, AND CHRONICLE OF 1838.

XIX.—ABSTRACTS OF IMPORTANT PUBLIC ACTS.

PASSED IN THE FIRST YEAR OF THE REIGN OF QUEEN VICTORIA.

CIVIL LIST.

[1 Victoria, c. 2.—23rd December, 1837.]

An Act for the Support of her Majesty's Household, and of the Honour and Dignity of the Crown of the United Kingdom of Great Britain and Ireland.

This act reciting several preceding Acts, and that her Majesty had been graciously pleased to signify to her faithful Commons in Parliament assembled, that her Majesty placed unreservedly at their disposal those hereditary revenues which were transferred to the public by her immediate predecessors, and that, desirous the expenditure in this as in every other department of the government should be kept within due limits her Majesty felt confident that her faithful Commons would gladly make adequate provision for the support of the honour and dignity of the crown: enacts that the powers of existing Acts as to hereditary revenue, shall remain in force; and that they shall be carried to the Consolidated Fund during the life of her Majesty; but after her demise shall be payable to her successors.

3. The clear yearly sum of 385,000*l.* shall be paid out of the Consolidated Fund for the support of her Majesty's household, and of the honour and dignity of the crown; to be applied according to the schedule.

4. So much of the sum of 200,000*l.* granted by an Act of last session to make civil list payments as shall have been so applied shall be repaid out of the money granted for the civil list by this Act.

5 and 6. 1200*l.* a year to be issued to defray the charge of pensions; but hereafter they shall be granted to such persons only as have just claims on the royal beneficence, or who, by their personal services to the crown, by the performance of duties to the public, or by their useful discoveries in science and attainments in literature and the arts, have merited the gracious consideration of their sovereign and the gratitude of their country; but a list of all such pensions must be laid before Parliament yearly.

7. Remits the hereditary duties on beer, ale, and cider, during the life of her Majesty.

8 and 9. Require the Treasury, every quarter, to direct what sums shall respectively be appropriated out of the quarterly revenues of the civil list, for the purpose of defraying the several charges upon the respective classes thereof, but so as that the sum to be appropriated to any one class do not exceed one fourth part of the estimated annual amount

of that class as specified in the schedule with any saving which may have accrued upon the said class in the preceding quarter; and no part shall, on any account whatever, be applied, until after the termination of each year, for any other purpose, or in aid of any other of the classes of the civil list, or of any other of the charges thereon, but the Treasury may direct savings in any class to be applied at the end of the year in aid of other classes.

10. In case of exceedings, particulars to be laid before Parliament.

11. Provisions of all former Civil List Acts to remain in force for the purposes of this Act, except as hereby altered.

12. This Act not to affect powers exercised by the crown relating to the small branches of hereditary revenue.

13. Contains a saving of rights in Scotland.

15. Grants a sum of 10,000*l.* for home secret service.

Schedule to which this Act refers :—	£
First Class: for her Majesty's privy purse	60,000
Second Class: salaries of her Majesty's household and retired allowances	131,260
Third Class: expenses of her Majesty's household	172,500
Fourth Class: royal bounty, alms, and special services	13,200
Fifth Class: pensions to the extent of 1200*l.* per annum	
Sixth Class: unappropriated monies	8,040
	385,000

SLAVE COMPENSATION.

[1 Victoria, c. 3.—23rd December, 1837.]

This Act empowers the commissioners for the reduction of the nationa debt under the direction of the Treasury, either to pay the compensation remaining due to owners of slaves out of the 'West India Compensation Account,' or to transfer a proportionate amount of 3*l.* 10*s.* per cent. Annuities. It directs the various Acts of Will. IV. relating to slave compensation to apply, as far as applicable, to itself.

ADJOURNED QUARTER SESSIONS.

[1 Victoria, c. 4.—23rd December, 1837.]

This Act, removing doubts on the subject, enacts that juries may be summoned to attend adjourned quarter sessions.

OATHS—CORPORATIONS.

[1 Victoria, c. 5.—23rd December, 1837.]

An Act for the Relief of Quakers, Moravians, and Separatists elected to Municipal Offices.

This Act substitutes for the declarations required by the 9 Geo. IV. c. 17, (see *Companion* for 1829, p. 148) and 5 and 6 Will. IV. c. 76. (see *Companion* for 1836, p. 182) the following declaration; viz., 'I, A B., being one of the people called Quakers [or one of the persuasion of the people called Quakers, or of the united brethren called Moravians, or of the denomination called Separatists, as the case may be], having conscientious scruples against subscribing the declaration contained in an Act passed in the ninth year of the reign of King George the Fourth, do solemnly, sincerely, and truly declare and affirm, that I will not exercise any power or authority or influence which I may possess by virtue of the office of [ ] to injure or weaken the Protestant Church as it is by law established in England, nor to disturb the said church, or the bishops and clergy of the said church, in the possession of any right or privileges to which such church or the said bishops and clergy may be by law entitled.'

2. And such declaration shall have the same force as that in Geo. IV. c. 17

[1 Victoria, c. 15.—30th March, 1838.]

This Act extends the provisions of the previous Act (c. 5.) which applied to the office of mayor, alderman, or councillor, to that of recorder, bailiff, town clerk, or common councilman, or any office of magistracy, or place, trust or employment, relating to the government of any city, corporation or borough in England and Wales.

PRISONERS' CONVEYANCE—IRELAND.

[1 Victoria, c. 6.—23rd December, 1837.]

This Act directs that the expenses of conveying prisoners shall be paid by the paymaster of the constabulary force, and be repaid by grand jury presentment.

HOUSES OF PARLIAMENT.

[1 Victoria, c. 7.—23rd December, 1837.]

This Act makes various provisions for enabling the Commissioners of her Majesty's Woods, Forests, Land Revenues, Works, and Buildings to purchase ground and tenements required to complete the site for the new houses of parliament.

ANNUITY TO THE DUCHESS OF KENT.

[1 Victoria, c. 8.—26th January, 1838.]

This Act empowers her Majesty to grant an annuity of 30,000*l.* to her Royal Highness the Duchess of Kent; but all former annuities granted to her Royal Highness shall cease.

LOWER CANADA.

[1 Victoria, c. 9.—10th February, 1838.]

An Act to make Temporary Provision for the Government of Lower Canada.

Reciting that 'it is expedient to make temporary provision for the government of Lower Canada, in order that parliament may be enabled, after mature deliberation, to make permanent arrangements for the constitution and government of the said province, upon such a basis as may best secure the rights and liberties and promote the interests of all classes of her Majesty's subjects in the said province:' suspends the powers of the present legislature of Lower Canada; and empowers her Majesty to appoint a special council for the affairs of Lower Canada; who are to take the same oath as is now required to be taken by the members of the legislative council and assembly.

3. The Governor and Council may make laws or ordinances for the government of Lower Canada; but such laws must first be proposed by the Governor, and none shall last beyond 1st November, 1842; and it shall not be lawful to impose any tax, duty, rate, or impost, which at the passing of this Act is not payable within the said province; but no such laws or ordinances shall affect the existing laws respecting rights of election, &c.

4. No law or ordinance shall be made to appropriate the monies in hand for repayment of the sum of 142,160*l.*, granted to her Majesty by an Act passed in the last session for advances on account of charges for the administration of justice and of the civil government of the province of Lower Canada, unless upon a certificate from the Treasury, nor to an amount exceeding the appropriation of 1832.

5. The laws or ordinances may be disallowed by her Majesty in council.

6. This Act not to affect laws, &c. now in force within the said province of Lower Canada.

7. Directs the proclamation of this Act.

CONTRACTS WITH COPARTNERSHIPS.

[1 Victoria, c. 10.—20th February, 1838.]

An Act to make good certain contracts which have been or may be entered into by certain Banking and other Copartnerships.

Reciting that it is expedient to render legal and valid all contracts entered into by associations or copartnerships of six members and more, or which for a limited time may be entered into by them, although the same may now be void by reason of spiritual persons being or having been such members or shareholders or otherwise interested, enacts that no association or copartnership, or contract entered into by any of them shall be illegal or void by reason only of spiritual persons being members of such association or copartnership.

2. In all actions and suits the defendant to be entitled to taxed costs, and the court may make order for further costs, in case of a plea of the invalidity of such contract.

CUSTODY OF INSANE PERSONS.

[1 Victoria, c. 14.—30th March, 1838.]

This Act repeals so much of an Act of 39 and 40 Geo. III. as authorises magistrates to commit to gaols or houses of correction persons who are apprehended under circumstances that denote a derangement of mind and a purpose of committing a crime; and in lieu thereof, provides that when such persons are in custody, two justices may call to their assistance a physician, surgeon, or apothecary, and if upon view and examination of the said person so in custody or from other proof, the said justices shall be satisfied that such person is insane or a dangerous idiot, they may, by an order directed to the keeper of the gaol or house of correction, if in custody at the passing this Act, or if hereafter apprehended, to the constable or overseers of the poor of the parish, township, or place where such person shall be apprehended, cause the said person to be placed in the county lunatic asylum, provided there be one, and if there be no such asylum, then to some public hospital, or some house duly licensed for the reception of insane persons; and the said justices may inquire into the settlement of lunatics or dangerous idiots, and make order for payment of their maintenance, on the overseers or churchwardens of his or her parish, township, or place, and if their settlement cannot be ascertained, on the treasurer of the county, city, borough, or place where such person shall have been in custody or apprehended: but nothing shall prevent relations from taking lunatics under their own care, on entering into sufficient recognizance for his or her peaceable behaviour; but the overseers of the parish may appeal as therein directed.

3. Persons proved on examination not to be insane may be liberated, but the medical examiner must give a certificate to the visiting justices of the gaol.

4. Act not to alter laws relating to the discharge of recovered lunatics.

5. Act to extend only to England and Wales.

SLAVERY ABOLITION ACT.

[1 Victoria, c. 19.—11th April, 1838.]

An Act to amend the Act for the Abolition of Slavery in the British Colonies.

Reciting the 3 and 4 Will. IV. c. 73. (see *Companion* for 1834, p. 136) and that in pursuance of the powers for that purpose in the said Act contained, divers orders in council, ordinances, and Acts of Assembly have been made for giving effect to the said Act by supplementary enactments in the said colonies: and it hath since appeared that further provisions are necessary for the protection of the apprenticed labourers in the said colonies, and for giving full effect to the intent and meaning of the said

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Act, enacts that the legal hours of labour shall be regulated by proclamation; but no such regulation shall lessen, save as herein-after provided, the whole amount of weekly labour which may be lawfully required of apprentices within that colony.

2. Time may be allowed for going to work and returning, at any rate not exceeding three miles by the hour.

3 and 4. Customary privileges and allowances to be continued, and to be decided on by Governors in Council.

5. Proprietors of estates to furnish apprentices while in confinement or in hospital with food and necessaries.

6 and 7. Sworn official umpires of appraisement may be appointed, by the governors; who shall fix the amount to be given for the discharge of an apprentice.

9. Vagrant apprentices to be committed by special justices only.

10. Penalty on supervisors neglecting to advertise vagrants, not exceeding 1*l.* per day.

11. Justices may enter and examine all prisons and workhouses.

12. Governor may make regulations for treatment of apprenticed labourers, in prison, &c.

13. Similar penalty for obstructing justices under this Act, as before in the recited Act.

14. Governor may order actions against justices to be discontinued.

15. Penalties may be paid over to apprentices, if justices so award.

16. Apprentices cruelly treated may be discharged by the governor, but not before the circumstances of any such case shall have been first examined into upon oath by two special justices, nor until the report in writing of such examination by such special justices, containing the evidence on which such report is founded, shall have been received by him: and notwithstanding any such order for discharge, every offending person shall be liable to the like penalties for such cruelty, injustice, and wrong as if such order had not been made.

17. Any persons other than those entitled to the services of apprenticed labourers, inflicting injury on such apprentices, to pay the value of their services.

18. And it shall not be lawful to place any female apprentice on a treadmill or in the chain or penal gang of any parish, or to punish any female apprentice by whipping or beating her person, or by cutting off her hair, for any offence by her committed, or for the breach of any regulation, whether made for the discipline of any prison, hospital, or workhouse, or for any other purpose; and it shall not be lawful to punish any apprenticed labourer, being a male, by whipping or beating his person, after the 15th of August, 1838, in any of the said colonies except the Island of Mauritius, or after the 15th of February, 1839, in the Island of Mauritius, against any provision of the said Act for the abolition of slavery, or against any provision of any order in council, ordinance, or Act of Assembly made in pursuance of the said Act, or for any offence for which any other person of free condition within the same colony is not liable to the like punishment; and it shall not be lawful to punish any apprenticed labourer, being a male, by whipping or beating his person, for any offence by him committed against or for the breach of any regulation made for the discipline of any prison, hospital, or workhouse, unless with the approbation of a special justice.

19. "And as there is reason to believe that in some of the said colonies no complete division has been made of the apprenticed labourers into distinct classes, and that in the divisions which have been made certain apprentices have been erroneously registered as prædial apprenticed labourers, and it is necessary that provision should be made for the completion of every incomplete classification, and for the correction of all erroneous classification;" empowers the governors to appoint persons to revise the classifications; but no person who was of the age of twelve years and upwards on the 28th of August, 1833, shall be included or re-

tained in either of the classes of prædial apprenticed labourers, unless such person shall for twelve calendar months at least next before the said 28th of August have been habitually employed in agriculture or in the manufacture of colonial produce, any subsequent agreement to the contrary notwithstanding: and either party may appeal from the revision to the governor in council.

20. Classification in Jamaica under disallowed regulations declared good for the purpose of revision.

21. Report of prison regulations to be laid before parliament.

22. Apprenticed labourers not required to have passes, except during their masters' time.

24. Repeals certain clauses in the Jamaica Police Act, relating to the apprehension of persons having sugar, rum, &c., in their possession without a permit, and which in the case of apprenticed labourers, transferred the matter from the jurisdiction of the local to the special justice.

25. On the proclamation of this Act in any colony, all orders of Assembly contrary to it are to be void; but it is not to apply to any colony to which the said Act for the abolition of slavery does not apply, or in which the apprenticeship shall be already lawfully determined.

26. And the provisions hereinbefore contained shall continue in force in each of the colonies in which they shall be so proclaimed until the lawful determination of the said apprenticeship within that colony.

27. Her Majesty in council may increase the amount of allowances to slaves.

28. No person shall by virtue of the said Act, or by virtue of any indenture of apprenticeship entered into by him or her or on his or her behalf in pursuance thereof, be liable to serve as an apprenticed labourer after the 1st of February, 1841, in the island of Mauritius, or after the 1st of August, 1840, in any other of the colonies aforesaid.

FIRST FRUITS, TENTHS, &c.

[1 Victoria, c. 20.—11th April, 1838.]

An Act for the Consolidation of the Offices of First Fruits, Tenths, and Queen Anne's Bounty.

"This Act, reciting that the method at present in use for the collection and receipt of the first fruits and tenths is unnecessarily circuitous, complicated, and expensive; and it is therefore expedient that the offices of remembrancer of first fruits and tenths, and of collectors or receivers, and the clerkships attached, should be abolished, and that the collection and receipt as well as the expenditure and application of the whole revenue should be placed under the management of the governors of the bounty of Queen Anne, and their treasurer for the time being under their immediate control, by which means the collection and receipt of the said first fruits and tenths, and the proceedings to recover and enforce the payment thereof, may be rendered more simple and less oppressive to the clergy paying the same, and the expenses attending such collection and receipt may be greatly lessened, and the clear revenues of first fruits and tenths be consequently increased for the augmentation of the maintenance of the poor clergy, as directed by the said letters patent of her said Majesty Queen Anne:" proceeds accordingly to abolish the recited offices, and to transfer their powers to the said treasurer. It is unnecessary to detail the provisions made for that purpose.

RESIDENCE OF CLERGY.

[1 Victoria, c. 23.—9th May, 1838.]

An Act to amend the Law for providing fit Houses for the beneficed Clergy.

This Act, reciting the 17 Geo. III. c. 53; and the 21 Geo. III. c. 66, enacts that it shall be lawful for the incumbent of any benefice to borrow

for the purposes of the said Acts, and also for the purpose of buying or procuring, if necessary, a proper site for a house and other necessary buildings, or for the purposes of the said Acts only, any sum not exceeding three years net income of such benefice, and to take all such proceedings, as are required in and by the said Acts (so far as the same are applicable for that purpose), and, as a security for the money so to be borrowed, to mortgage the glebe, tithe, rent-charges, rents, and other profits and emoluments belonging to such benefice, by one or more deed or deeds for the term of thirty-five years, or until the money so to be borrowed, with interest for the same, and costs, shall be fully paid according to the terms of the said Acts: and that after the first year of the said term (in which no part of the principal sum borrowed shall be repayable) the incumbent shall yearly from the day of the date of the mortgage pay to the mortgagee; one thirtieth part of the said principal sum, until the whole shall be repaid, and shall at the end of the first and each succeeding year pay the yearly interest on the said principal sum, or on so much thereof as shall from time to time remain unpaid, in each case according to the terms of the said Acts, and such mortgage deed shall bind every succeeding incumbent of such benefice until the principal and interest, costs and charges, shall be paid off.

2. Contains a repeal of so much of those Acts as requires non-residents to pay 10*l.* per cent. per annum of sum borrowed, &c.

3. The yearly instalments of principal sums secured by existing mortgages to the governors of Queen Anne's bounty reduced to one thirtieth part of the principal sum in all cases.

4. Governors of Queen Anne's bounty may advance 100*l.* for benefices not exceeding 50*l.* a year without interest.

5. Colleges, &c., may advance money interest free to benefices in their patronage for houses.

6. Old benefice houses may be converted into farming buildings for the tenants of the glebe, when certified, as incapable of being repaired so as to be fit for the residence of the incumbent.

7. Gives power to incumbent (with consent of patron and ordinary and archbishop) to sell house of residence if inconveniently situated, or under special circumstances.

8 and 9. Purchase monies to be paid to the governors of Queen Anne's bounty; to be applied to buy or build a house for incumbent's residence.

10 to 12. Directs the mode in which the consent of the patron is to be testified when the patronage is in the crown, or in the Duchy of Cornwall, or with an incapacitated person.

14. In case of a purchase the powers of the 7 Geo. IV. c. 66. to apply.

15. Sequestrations under 17 Geo. III. c. 53. to have priority.

[1 Victoria, c. 29.—4th July, 1838.]

This Act corrects a verbal omission in the 7th sec. of the above Act.

ALLEGIANCE.

[1 Victoria, c. 24.—11th June, 1838.]

This Act repeals so much of the oath or declaration of allegiance as relates to a saving of the rights of any issue of his late Majesty which might be born of his late Majesty's consort.

POOR LAW AMENDMENT ACT.

[1 Victoria, c. 25.—11th June, 1838.]

This Act reciting doubts which had arisen on the subject, enacts that the provisions of the 6 and 7 Will. IV, c. 107 (see *Companion* for 1837, p. 146), relating to loans made to parishes and unions, shall extend to loans made by chartered or incorporated companies. And reciting also

that previously to the 4 and 5 Will. IV. c. 76 (see *Companion* for 1835, p. 152), divers sums had been lent to parishes for the repayment whereof no funds legally existed, empowers the guardians or trustees of any dissolved union or parish to apply the produce arising from the sale of any property thereunto belonging made under authority of the 6 and 7 Will. IV. c. 107, in liquidation of the debts considered by the Poor Law Commissioners to be fair and just, although the payment may not be capable of legal enforcement; but no such application shall be made except with the consent of the majority of the rate payers and owners of property at a meeting to be convened as a vestry.

INSANE PERSONS—IRELAND.

[1 Victoria, c. 27.—11th June, 1838].

This Act empowers two justices, whenever any person shall be apprehended under circumstances denoting a derangement of mind and a purpose of committing some crime, to call in a physician, &c.; and if upon view, they shall be satisfied such person is a dangerous lunatic, they may commit him to gaol, there to remain till discharged by two justices as there directed, or until removed to the proper lunatic asylum by order of the Lord Lieutenant.

2. Empowers the Lord Lieutenant to direct persons under sentence of imprisonment or transportation to be removed to a lunatic asylum, there to remain till two physicians, &c., have certified he is of sound mind, when the Lord Lieutenant may direct his removal.

3. Gives him a similar power of removing insane persons committed for trial.

SALE OF BREAD—IRELAND.

[1 Victoria, c. 28.—4th July, 1838.]

This Act reciting that the 6 and 7 Will. IV. c. 37 (see *Companion* for 1837, p. 120), had been found beneficial to Great Britain, repeals all former Acts relating to the sale of bread in Ireland.

2. Enacts that bread may be there sold if made of the flour or meal of wheat, barley, rye, oats, buckwheat, Indian corn, peas, beans, rice, or other grain, or of potatoes or any of them, such ingredients being mixed with any common salt, pure water, eggs, milk, barm, leaven, potato, or other yeast, butter, seeds, or sugar, in such proportions as the bakers may think fit, but with no other ingredient whatsoever.

3. Bread may be made of any weight or size.

4. But it must be sold by weight, and in no other manner, under a penalty not exceeding 40*s*.

5 and 6. Bakers must use avoirdupois weights of 16 ounces to the pound, under a penalty of not exceeding 40*s*.; and must provide frames, scales, and weights, under a penalty not exceeding 5*l*.

7. Bakers convicted as therein prescribed of adulterating bread shall forfeit not more than 5*l*. nor less than 50*s*., and their names and offence shall be published.

8. And persons convicted of adulterating corn, meal, flour, &c., and of selling flour of one sort as flour of another sort, or as not equal to sample, shall forfeit not more than 10*l*. nor less than 40*s*., with the corn or flour.

10. Gives magistrates and peace officers with their warrant, on sworn information, a right of search into bakers' premises; and if adulterated flour or bread be found there, it may be disposed of as therein mentioned.

11. Inflicts penalties for a first, second, or subsequent offence, if ingredients for adulteration are found in any baking premises.

12. Imposes a penalty for obstructing search, but provides for the wilful default of journeymen and servants, who are to recompense their

masters, and on neglect of immediate payment of the sum awarded by the magistrates, may be imprisoned.

13. Bakers are not to bake on the Lord's Day, or sell bread or bake pies, &c., on that day, except between nine in the forenoon and one in the afternoon, under penalties for the first, second, and subsequent offence.

14. No miller, meal-man, flour-factor, or baker shall act as a justice of the peace under the Act under a penalty of 100*l.*

15. Penalty for opposing the execution of the Act, not exceeding 5*l.*

The remainder of the Act regulates the mode of recovery and application of penalties and forfeitures, and of appeal to the quarter sessions.

CHURCH PATRONAGE, CORPORATIONS.

[1 Victoria, c. 31.—4th July, 1838.]

This Act, reciting the 5 and 6 Will. IV. c. 76. s. 139 (see *Companion* for 1836, p. 139), authorising the sale of advowsons, &c., by municipal corporations as therein mentioned, and reciting also that doubts had arisen as to whether manors, &c., granted to corporations with an obligation to provide fit priests, &c., in certain churches, but to which no regular endowments had been made, and the curates had not become bodies politic, were within the provisions of the recited Act, enacts that every right of nomination of such priest, &c., may be sold as by that Act directed.

2. But notwithstanding any such sale, the property is to remain liable to the same obligations as before.

3. And the corporations may augment and endow priestships, &c., as heretofore, but with the consent of the Treasury.

4. Act to apply to previous, present, and future sales.

VACATION SITTINGS IN BANCO.

[1 Victoria, c. 32.—4th July, 1838.]

This Act enables the Courts of Queen's Bench, Common Pleas, and Exchequer, at their discretion, to hold sittings in banco in time of vacation, at such times as are now appointed for holding sittings at *nisi prius* in London and Middlesex; and such sittings in vacation are to be holden by rule or order to be published as therein directed. All judgments, &c., then pronounced are to have the same effect as in term time.

FREEMEN'S ADMISSION.

[1 Victoria, c. 35.—4th July, 1838.]

This Act repeals the stamp duty now payable on the admission of freemen by birth or servitude in cities or boroughs returning members.

OATHS TO WITNESSES—IRELAND.

[1 Victoria, c. 37.—27th July, 1838.]

This Act enacts that bills of indictment laid before grand juries shall be indorsed with the names of the witnesses; and empowers such juries to administer oaths or affirmations to the witnesses, to be taken under the penalties of perjury for falsehood.

VAGRANT ACT AMENDMENT.

[1 Victoria, c. 38.—27th July, 1838.]

This Act amends the Vagrant Act, 5 Geo. IV. c. 83, by directing that persons convicted and discharged out of custody on having appealed against such conviction, but not appearing to prosecute such appeal, may be recommitted.

It also provides that the penalty inflicted by the recited Act on exposing indecent prints in any street or highway, shall be inflicted on those who expose the same in any part of a shop or house.

SLAVE TRADE, HANS TOWNS.

[1 Victoria, c. 39.—27th July, 1838.]

An Act for carrying into effect a Convention of Accession of the Hans Towns to Two Conventions with the King of the French, for suppressing the Slave Trade.

This Act, reciting the conventions between Great Britain and France, for rendering more effectual the means of suppressing the criminal traffic called the Slave Trade, and reciting also the 3 and 4 Will. IV. c. 72 (see *Companion* for 1834, p. 136); and that since that Act a convention had been concluded between France and the Hans Towns, containing the accession of the Hans Towns to the said two conventions between Great Britain and France for the more effectual suppression of the slave trade, as therein mentioned; and reciting lastly that it was expedient to extend the provisions of the before-mentioned Act to such convention of the Hans Towns—enacts accordingly that its provisions shall be so extended.

2 Directs to what parts captured vessels shall be taken; and 3 directs the mode of disposing of slaves on board Hanseatic vessels.

SLAVE TRADE, SWEDEN.

[2 Victoria, c. 40.—27th July, 1838.]

This Act reciting that a treaty between Great Britain and Sweden for abolishing the slave trade, was carried into effect by the 7 and 8 Geo. IV. c. 54, and that since that Act an additional article to the treaty had been agreed on, viz.. That in all cases in which a vessel shall, under the above-mentioned treaty, be detained by their respective cruisers as having been engaged in the slave trade, or as having been fitted out for the purposes thereof, and shall consequently be condemned by the mixed courts of commission, the said vessel shall, immediately after its condemnation, be broken up entirely, and shall be sold in separate parts after having been so broken up—extends the provisions of the recited Act to such additional article.

SLAVE TRADE, NETHERLANDS.

[2 Victoria, c. 41—27th July, 1838.]

This Act, reciting that a treaty between Great Britain and the Netherlands, for the suppression of the slave trade, had been carried into effect by the 59 Geo. III. c. 16, and that subsequent additional articles had been entered into, whereby the former regulations relating to a condemned slave ship, that it should be sold by public sale for the profit of the two governments, was altered, and it was provided that the said vessel shall be entirely demolished, and the materials thereof publicly sold in separate parts, as well as her cargo, for the profit of the two governments—extends the provision of the recited Act to such additional articles.

GLASS DUTIES.

[2 Victoria, c. 44.—27th July, 1838.]

An Act to consolidate and amend the Laws for collecting and securing the Duties of Excise on Glass.

This Act, reciting that the laws for collecting and securing the duties of excise on glass have become numerous and complicated, and that it is expedient to consolidate and amend the same, levies the duties and gives the drawbacks mentioned in the schedule, which it places under the management of the commissioners of Excise.

It then makes a great number of provisions for collecting these duties, and imposes many obligations on glass-makers which they must observe, under heavy penalties, with reference to the entry of their premises,

&c., and the notices to be given and periods allowed before the different processes of the manufacture.

As the Act contains ninety-three sections, we are prevented by our limits from doing more than calling the attention of the glass-manufacturers to this important Act in this general manner. We find it impossible to select sections which ought to have a preference, and a compendium of the whole Act would much exceed our necessary limits. The last section contains a repeal of former Acts.

QUALIFICATION OF MEMBERS.

[2 Victoria, c. 48.—27th July, 1838.]

An Act to amend the Laws relating to the Qualification of Members to serve in Parliament.

Repeals the 9 Anne, c. 5, and the 33 Geo. II. c. 20; and enacts that thereafter no persons shall be capable of being elected a member of the House of Commons for any county, unless he shall be seised, for his own use, of an estate, legal or equitable, in lands, tenements, or hereditaments of any tenure whatever, situate within the United Kingdom; or in the rents and profits thereof, for his own life, or for the life of any other person, or for a term of years, either absolute or determinable on his own life or on the life of any other person then living, of which term not less than thirteen years shall be at the time of his election unexpired, such estate being of the clear yearly value of not less than 600*l.* over and above all incumbrances; or unless he shall be possessed for his own use, at law or in equity, for his own life or for the life of any other person then living, or for any term of years, either absolute or determinable on his own life or on the life of any other person then living, of which term not less than thirteen years shall be at the time of his election unexpired, of personal estate of any nature or kind whatsoever within the said United Kingdom, or the interest, dividends, or annual proceeds of any such personal estate actually producing the clear yearly income of not less than 600*l.* over and above all incumbrances; or unless he shall possess more than one of such several kinds of qualification, being jointly of sufficient value to qualify him. An exactly similar provision then follows for cities, boroughs, and cinque ports, with the exception of the annual income, which need only be 300*l.* instead of 600*l.* as for the counties.

3 and 4. Candidates at elections are to make a declaration, if required, that they possess such estate; according to the form prescribed, and before the returning officer, or a commissioner, or a justice, who are to certify such declaration under a penalty of 100*l.*, half to the Queen, and half to the informer.

6 and 7. Every member must deliver in at the table of the House a a statement of qualification, and make the declaration, therein prescribed, before he shall sit or vote; and if he make a false declaration he shall be guilty of a misdemeanor.

8. Every election shall be void when the member sits or votes before he has complied with the provisions of this Act.

9. It is not to extend to the members of the universities, nor to the eldest sons of peers.

EDINBURGH AND LEITH.

[2 Victoria, c. 55.—27th July, 1838.]

This Act, reciting that the affairs of the city of Edinburgh have for some years past been in a state of great embarrassment, and various difficulties have thence arisen in relation to a settlement with the creditors of the said city, to the beneficial management of the harbour and docks of Leith, the requisite improvement thereof, and the regulation of the rates and duties leviable thereat; to the commutation and securing to the ministers of the city of Edinburgh of the duty of a merk per ton and pack,

payable to them upon goods brought into Leith and Edinburgh; to making provision for the expense of the college and schools of the said city, and to the separation of the city of Edinburgh from the town of Leith; and it is most desirable that a remedy should be provided against the great injury and inconvenience arising therefrom—proceeds accordingly to provide such remedy.

The government security on the said harbour and docks of Leith is postponed; commissioners are appointed to carry the Act into execution, in whom the said harbour, &c., and the rates therefrom arising are vested; the appropriation of the surplus revenue, after payment of 7680*l.*, and the expenses of the establishment is regulated; the duty of a merk per ton heretofore levied on goods brought from Leith to Edinburgh is abolished, and the burdens now laid upon it discharged out of the 7680*l*; Edinburgh and Leith are separated, and many other provisions are made to carry out the purposes of the Act, which our limits prevent us from giving. The Act contains eighty-three sections.

POOR LAW—IRELAND.

[2 Victoria, c. 56.—31st July, 1838.]

An Act for the more effectual Relief of the Destitute Poor in Ireland.

Reciting that it is expedient to provide for the more effectual relief of the destitute poor in Ireland, authorises the Poor Law Commissioners to carry this Act into execution, and to examine witnesses, and to call for papers, &c., upon oath.

3. Administration of relief to the poor shall be under the control of the Commissioners, who may make and suspend and rescind all such orders for the government of workhouses, houses of industry, and foundling hospitals, and of the poor therein, and for the guidance and control, appointment and removal of the officers thereof, and for the guidance and control, according to the intention of this Act, of all guardians, wardens, and other officers, paid or unpaid, acting in the management or relief of the destitute poor, and for the keeping, examining, auditing, and allowing or disallowing of accounts, and for the making of contracts in all matters relating to such management or relief, or to any expenditure for the relief of the destitute poor, and for carrying this Act into execution in all other respects as they shall think proper.

4. But all general rules must be submitted to the Secretary of State, and shall not operate unless forty days have elapsed without his disallowance.

5 and 6. They must be laid before Parliament; and every order must be sent to the guardians, &c.

7. Publicity to be given to orders in any manner directed by the Commissioners, under penalty for neglect of not more than 10*l.* nor less than 40*s.*

9 and 11. Commissioners may appoint assistants, &c., and delegate and revoke powers.

12. Assistant Commissioners may examine on oath, or take a declaration.

15 and 16. Commissioners may form, dissolve, or alter unions, as they think fit, and fix the proportionate amounts payable by any union or townland on alteration.

17. Election of Guardians to be fixed by Commissioners.

18. Commissioners may divide unions into electoral districts.

19. Number and qualification of Guardians to be fixed by Commissioners; but no minister of religion can be a guardian.

20 and 21. Election of Guardians to be annual, on the 25th of March; and they may be re-elected.

22. In case of vacancy, the remaining members to act.

23 and 24. Every justice residing in any such union, and acting for the county in which he so resides, and not being a stipendiary magistrate or

assistant barrister, or a person in holy orders, or a regular minister of any religious domination, shall be an ex-officio guardian of the poor for such union; but such ex-officio guardians are not to exceed one-third in number of the elected guardians. If they do exceed it, a selection is to be made by themselves of the proper number as therein prescribed, every year.

25. On non-election of guardians, or refusal to act, commissioners to order a fresh election, and if an election of guardians shall not thereupon take place, or any guardian who may be elected at such fresh election shall neglect or refuse to act, then the commissioners may appoint.

26. Empowers the commissioners to appoint paid officers; and to assess their salaries on the unions; but unless the commissioners shall sooner revoke or determine the appointment of such paid officers they shall hold their offices for one year from the date of their appointment, and thenceforth till the time of the next election of guardians for such union, and no longer.

27. Guardians of unions are incorporated; and commissioners, &c., entitled to attend their boards.

28. Such boards are to meet when enjoined by the commissioners.

29. No guardian to act except as a member of a board.

31 to 33. Paid officers may be appointed by guardians as and when authorised by the commissioners; whose salaries are to be charged on the rates of the respective unions; and who are to be removable by the commissioners.

34. Houses of industry, &c., to vest in the commissioners, and to be maintained as now until they shall otherwise order; but they are gradually to reduce the number of inmates in foundling hospitals.

35 to 40. Workhouses to be provided by the commissioners in the manner, and by buying land, &c., and borrowing money, as therein particularly mentioned.

41. And when the commissioners shall have declared any workhouse to be fit for the reception of destitute poor, and not before, it shall be lawful for the guardians, at their discretion, but subject in all cases to the orders of the commissioners, to take order for relieving and setting to work therein, in the first place, such destitute poor persons as by reason of old age, infirmity, or defect may be unable to support themselves, and destitute children; and in the next place, such other persons as the said guardians shall deem to be destitute poor, and unable to support themselves by their own industry, or by other lawful means: but in any case where there may not be sufficient accommodation for the relief of all the persons applying for relief whom the guardians shall deem to be destitute poor, they shall relieve such as may be resident in the union before those who may not be so resident.

42 and 43. Register books to be provided by the commissioners, in which the master of the workhouse shall register the persons admitted and relieved.

44. Accounts to be kept of expenses incurred in respect of persons relieved, which shall be charged against the whole union; but two or more electoral divisions may agree that the charges within such divisions shall be borne by them in common.

45. After completion of any workhouse the commissioners may order the powers of former acts to cease.

46. Commissioners to report upon the state of existing medical charities.

47. Commissioners empowered to inspect hospitals or infirmaries, supported in part by grand jury presentments or Parliamentary grants.

48. Religious service to be provided in workhouses, and chaplains to be appointed, but only one minister of the Established Church, one Protestant Dissenter, and one Roman Catholic clergyman.

49. No inmate of a workhouse shall be obliged to attend religious service contrary to his principles.

50. Parish wardens to be appointed annually by the guardians.

51. Commissioners may assist emigration, if the majority in value of the rate-payers shall apply to them,—but no rate for that purpose is to exceed 1*s.* in the pound on the net annual value of rateable property.

52. The application of money raised under this Act must be strictly made as herein pointed out.

53 and 54. Father and husband to maintain his own and his wife's children, legitimate or illegitimate, under fifteen; and relief given to such children shall be held relief to the father or husband.

55. Relief may be declared to be a loan.

56. Pensions, &c., to be paid to guardians in repayment of relief, as therein directed.

57. Children to maintain parents, unable to work; and to repay guardians as therein directed.

58. Any person refusing to work, absconding from workhouse, disobeying the rules of the commissioners, or introducing, or attempting to introduce spirituous or fermented liquors into any workhouse, shall, on conviction, before any justice in open court, be committed to the common gaol or house of correction, to hard labour for not exceeding one calendar month.

59. A similar punishment for three months on a similar conviction for deserting wife or child.

61 to 65. Rates to be made; having regard to the amount chargeable on electoral divisions on the hereditaments therein mentioned, and upon an estimate of the rent at which they might in their actual state be expected to let, the repairs, &c., being paid by the tenant; and in the form prescribed.

67. Accounts to be kept of tolls and profits liable to be rated.

69 and 70. Valuation and rates to be open to inspection.

71 and 72. Rates to be paid by occupier; but where the net annual value of property does not amount to 5*l.*, lessee may be rated instead of occupier.

74 and 76. A proportion of rate may be deducted from rent, of one half of the sum paid as rate in respect of each pound of the net annual value, and so in proportion for any less sum; but the entire rate shall be deducted from tithe.

77. And all agreements to forego deductions of rate shall be void.

78. Provides for the recovery of arrears of rate by the guardians.

79. Receipts for rates to be taken in payment of rent.

80. Every occupier paying rate, and not entitled to deduct the whole from the rent paid by him, and every person receiving in respect of any rateable property rent from which any deduction shall be made on account of rate, in case such rent shall exceed all rent paid by him in respect of the same property, and every owner of tithe, shall be deemed a rate-payer; and every person entitled to receive tithes from the persons primarily liable to pay the same, shall exclusively be deemed a tithe-owner for the purposes of this Act.

81. Constituency for electing guardians to consist of rate-payers, according to the following scale: viz.—where property, or the net amount of rent, or the net annual value of tithe, as the case may be, shall not amount to 20*l.*, one vote; shall amount to 20*l.* and not to 50*l.*, two votes; to 50*l.* and not to 100*l.*, three votes; to 100*l.* and not to 150*l.*, four votes; to 150*l.* and not to 200*l.*, five votes; to 200*l.* and upwards, six votes, but joint rate-payers may vote according to their respective proportion of the rate.

83 to 85. At elections of guardians, votes are to be taken in writing; and they may be given by proxy; but no occupier is to vote unless his rates be paid up.

87. Cess-payers to form constituency where no rate shall have been made.

89. Guardians may borrow of exchequer loan commissioners.

90 and 91. Money borrowed under the Act to be secured by a charge on the rates, and the right may be assigned on notice.

92 and 93. Contracts not to be valid unless conformable to the rules of commissioners, nor to be engaged in by any guardians, &c.

94. Officers to account to the commissioners; and all payments made by them contrary to this Act are to be disallowed.

95. Auditors to be appointed.

99. Justices may proceed by summons for recovery of penalties.

100. Penalty on officers disobeying guardians, not exceeding 5*l.*

101. Penalty on officers purloining goods, &c., 20*l.*, and treble the value of goods purloined.

102. Penalty on persons wilfully disobeying orders, for the first offence not exceeding five pounds, for the second offence not exceeding twenty pounds nor less than five pounds; and a third and every subsequent offence shall be deemed a misdemeanor.

103. Forfeitures, costs, and charges may be levied by distress and sale; and shall be applied in aid of the poor-rate.

104. Rate-payers, &c., competent witnesses.

105 to 116. Regulate the mode of appealing against rates and orders of ustices and of bringing actions for proceedings under the Act.

117. If rules are quashed the same to be notified to unions to which such rules have been directed; but existing contracts not to be affected; and no person is to be answerable until receipt of such notice.

119. Empowers the Queen to appoint a fourth commissioner.

120 and 121. The commissioners are to sit either in England and Wales or Ireland as a board; they are to have a common seal; and orders purporting to be sealed with such seal shall be received as evidence.

122. One commissioner to reside in Ireland for the execution of this Act, when required by the Secretary of State.

123. Report to be laid annually before parliament.

124. Is an interpretation clause.

INTERNATIONAL COPYRIGHT.

[1 Victoria, c. 59.—31st July, 1838.]

An Act for securing to Authors, in certain Cases, the Benefit of International Copyright.

1. Reciting that it is desirable to afford protection within her Majesty's dominions to the authors of books first published in foreign countries, and their assigns, in cases where protection shall be afforded in such foreign countries to the authors of books first published in her Majesty's dominions, and their assigns; empowers her Majesty in council to confer a copyright on the authors of such books; but the titles must be entered at Stationers' Hall. If, however, the book be published anonymously, the name of the publisher shall be sufficient.

3. And every such entry shall be primâ facie proof of a rightful first publication; but if there be a wrongful first publication, and any party have availed himself thereof to obtain an entry of a spurious work, the author or his first publisher may apply by petition or on motion to the Court of Chancery to order such entry to be amended.

4. Register book to be kept at Stationers' Hall, and to be open to inspection; and the certificate of the warehouse-keeper, shall without further proof be admitted in all courts as evidence of entry and delivery, and of the time of making the same respectively.

5. Warehouse-keeper to deposit such books in the British Museum.

6. Second or subsequent editions need not be delivered unless they contain alterations, and then a delivery of the alterations will suffice.

7. Orders in council may specify different periods for different foreign countries, as regards copyright and entry.

8. Booksellers, &c., who shall print, &c., any book to which order in council may extend, without consent of proprietor, shall be subject to an

action on the case and double costs; and shall forfeit every such book and all its sheets, besides threepence for every sheet thereof.

9. No order in council to have any effect unless it states that reciprocal protection is secured.

10 to 12. Orders in council may be revoked; and must be published in the Gazette and laid before Parliament.

13. But translations may be made of books first published abroad.

14. Foreign authors not entitled to copyright, except under this Act.

15. Actions must be brought within twelve months.

PRISONS—WEST INDIES.

[1 Victoria, c. 67.—4th August, 1838.]

This Act enables her Majesty in council and the governor and council of any colony to make rules for the government of the prisons of each colony in the West Indies, which shall be binding on all persons; but they must be laid before Parliament.

It also empowers her Majesty to appoint or to authorise the governor to appoint inspectors of prisons, who are not to be obstructed in their office under a penalty of 20*l.*

The governor may suspend or dismiss officers of prisons, and periodical returns and plans of prisons must be sent to him. No person shall be imprisoned in any prison which the governor shall have certified to be unfit.

The Act is to be proclaimed in the colonies.

MORTGAGES.

[1 Victoria, c. 69.—4th August, 1838.]

This Act removes doubts which have arisen on the 1 W. 4. c. 60, (see *Companion* for 1831, p. 153); and on the 4 W. 4, c. 23, (see *Companion* for 1835, p. 132), with reference to mortgages; and enacts that those acts shall extend and extend only to cases where any person seised of any land by way of mortgage shall have died without having been in possession of such land, or in receipt of the rents and profits; and the money due thereon shall have been paid to his executor, &c., and the devisee or heir of such mortgagee shall be out of the jurisdiction of the Court of Chancery, or it shall be uncertain whether they be living or dead, or who are their heirs, or where such mortgagee or devisee or heir shall have died without an heir, or such devisee, &c., neglect or refuse to convey for twenty-eight days after tender of a deed.

For these cases, the court may direct any person to convey such land as directed in the first recited Act.

This Act to extend to England and Ireland.

POSSESSION OF TENEMENTS.

[1 and 2 Victoria, c. 74.—10th August, 1838.]

An Act to facilitate the Recovery of Possession of Tenements after due Determination of the Tenancy.

Enacts that when the tenant or occupier of premises held at will, or for less than seven years, and whereof the possession is legally determined, and where there is no rent, or where the rent does not exceed 20*l.* a year, refuses to give possession, the landlord may give notice of his intention to proceed to recover possession, under the authority of this Act; and if such tenant, &c., does not appear, or fails to show cause why he does not give possession, the justices may issue their warrant, directing the constables to give the landlord possession; such notice to be served at the place of abode of the tenant, &c., and explained to him, or if he cannot be found, to be posted on the premises.

3. But the tenant may stay execution of the warrant, on giving a bond

to try the right in an action of trespass, wherein, if he be successful, he shall have double costs, and the warrant shall be annulled.

4. And if the bond be forfeited, the party may bring an action thereon.

5. But the justices and constables are not to be liable to an action if the party obtaining the warrant has no right.

6. Where the landlord has a lawful title, he shall not be deemed a trespasser by reason of any irregularity, but be liable in an action on the case for special damage proceeding from such irregularity; but if it be not proved, the defendant shall be entitled to a verdict, and if proved, but assessed by the jury at any sum not exceeding 5*s*., the plaintiff shall recover no more costs than damages, unless the judge shall certify on the back of the record that in his opinion full costs ought to be allowed.

8. Not to extend to Scotland or Ireland.

BUILDING ACT—FIRE.

[1 and 2 Victoria, c. 75.—10th August, 1837.]

This Act amends the provisions of the Building Act, 25 Geo. III. c. 77, relating to manufactories of pitch, tar, and turpentine, by enacting that the penalty of 100*l*. thereby inflicted shall only extend to the owners or occupiers of such distilleries when within the distance of 75 feet from any other building; but in case the other building next adjoining be occupied jointly by the same tenant, and that the whole premises so jointly occupied be 75 feet from any other building, the penalty shall not attach.

And no proprietor or occupier of any such distillery shall be liable to any penalties under that Act until August, 1840, nor any other person till January, 1839.

AFFIRMATIONS.

[1 and 2 Victoria, c. 77.—10th August, 1838.]

This Act permits the privilege of taking affirmations in lieu of oaths enjoyed by Quakers and Moravians to extend to persons who were formerly members of those religious classes, but have seceded therefrom, nevertheless retaining conscientious objections to oaths. They are to make a declaration to that effect. as thereby prescribed, and are to be subject to the penalties of perjury for falsehood.

HACKNEY AND STAGE COACHES, &c.

[1 and 2 Victoria, c. 79.—10th August, 1838.]

An Act for the better Regulation of Hackney Carriages, and of Metropolitan Stage Carriages, and of Waggons, Carts, and Drays, used in and near the Metropolis, and of the Drivers and Attendants thereof.

Reciting that it is expedient that the drivers of hackney carriages and the drivers and the conductors of metropolitan stage carriages in and near the metropolis, and the watermen at standings for hackney carriages, should be licensed, and that further provisions should be made for the regulation of such hackney carriages, &c., and the drivers thereof, &c.; enacts that the words "hackney carriage" shall include every carriage, except a stage carriage, or a carriage drawn or impelled by the power of steam, or otherwise than by animal power, with two or more wheels, which shall be used for the purpose of standing or plying for a passenger or passengers for hire at any place within the distance of ten miles from the General Post Office in the city of London; and that so much of the 1 and 2 Will. IV. c. 22 (see *Companion* for 1832, p. 146), as relates to hackney carriages and to watermen, shall extend to hackney carriages and to watermen within the meaning of this Act; but every license to act as a waterman, and all power to grant such licenses, shall cease; and every person to whom any such license shall have been granted, shall, within

one calendar month before the commencement of this Act, deliver up to the registrar the license and badge, and shall thereupon be entitled to a new license and ticket; and the words "Metropolitan Stage Carriage" shall include every stage carriage except such as shall on every journey go to or come from some town or place beyond the limits of this Act; and the words "limits of this Act" shall include every place within the distance of ten miles from the General Post Office in the city of London, and the whole of every town, village, or hamlet, any part of which shall be within the said distance; and it defines the meaning of the words "proprietor," "conductor," "passenger," &c.

2. Imposes a stamp duty of 5*s*. on every license granted under this Act.

3. The words "Metropolitan Stage Carriage" to be inscribed on every carriage; and the number of the stamp office plate, and the number of passengers to be carried, painted or affixed thereon, both inside and outside, under a penalty not exceeding 20*s*.

4. Secretary for the Home Department to appoint a registrar and clerks, whose salaries shall be paid by the Treasury, and paid by the Commissioners of Stamps and Taxes.

5. Drivers, conductors, and watermen to have licenses and tickets, which are not to be lent under a penalty of not more than 5*l*., and proprietors are not to allow unlicensed persons to act as drivers or as conductors, under a penalty not exceeding 10*l*.; but in case sudden illness or any other unforeseen cause shall disable any driver or conductor in the service of any proprietor, any competent person, whether duly licensed or not, may lawfully be employed in his place for not exceeding 48 hours.

6. Registrar to grant license to act as a driver, &c., on payment of 5*s*., and production of certificate of ability and character, which shall specify name, number, and abode, &c., and shall continue in force till the 1st of June ensuing its date; and the particulars of such licenses shall be entered in a book at the registrar's office, to be open to public inspection.

7. Persons applying for licenses to sign a requisition for the same; and if they make false representations, they shall forfeit 5*l*., and their license may be revoked.

8. Notice must be given by drivers, conductors, and watermen of any change of abode, under a penalty of 20*s*.

9. An abstract of the laws with a metal ticket to be delivered with licenses; and such tickets to be carried conspicuously by drivers, &c., under a penalty for neglect, or refusing to permit any person to inspect such ticket, of 40*s*.

10. Licenses and tickets to be delivered up on the discontinuance of licenses, under a penalty for wearing a ticket without having a license, or wearing a fictitious ticket, of not exceeding 5*l*.

11. New tickets to be delivered in lieu of defaced or lost tickets; but a penalty of 40*s*. shall be inflicted for not delivering up lost ticket, when found, or for wearing a ticket after it has been defaced.

12. Forgery of license or ticket, or knowingly uttering a forged license or ticket, a misdemeanour.

13. Proprietor to retain the license of drivers or conductors when in his employ; and to produce the same when summoned, under a penalty of 3*l*.; and justices may endorse convictions for offences upon licenses.

14. Proprietor to return license to drivers or conductors when quitting his service, if they behave well; if they have misconducted themselves, proprietor to summon them; but they may be awarded compensation, if license improperly withheld, by a justice.

15. Licenses may be suspended by justices, and may also be revoked by two, upon proof that any driver, conductor, or waterman has been convicted of felony or of knowingly receiving stolen property, or upon the conviction before them for a second offence of any driver or conductor for furious or wanton or negligent driving, or for detaining property left in any hackney carriage, or in any metropolitan stage carriage, or for

wilfully defrauding his employer, or for refusing or neglecting to attend before any justice when lawfully required so to do.

16. No person to act as driver of any carriage without the consent of the proprietor, otherwise he may be apprehended.

17. Punishment for wanton or furious driving, or negligence, or wilful misbehaviour of drivers of carriages, not exceeding 3*l.*, or imprisonment for two months, and the justice may direct compensation for hurt or damage, not exceeding 5*l.*, to be paid by the proprietor, who shall recover of the driver.

18. Penalty on drivers of hackney carriages, or drivers or conductors of metropolitan stage carriages, for loitering or causing any obstruction, or plying for hire by making any noise, not exceeding 20*s.*

19. Any justice may inquire into disputes between proprietors and drivers of carriages, and settle the same.

21. Proprietors may be summoned to appear, or to produce the driver or conductor; and they must give notice to them, under a penalty respectively for neglect, of 40*s.*, and on neglect of such summons, the justice may proceed.

22. If driver or conductor does not appear, the proprietor to pay the penalty, and be entitled to recover from the driver or conductor.

23. Justices empowered to hear and determine complaints, as under the before-mentioned Act; to proceed as prescribed by the 24th section.

26. Peace officers and informers not disqualified from being witnesses.

27. Directs the application of penalties.

28. Justices may award costs to defendant, where complaint is withdrawn or dismissed.

29. Directs the mode of service of the justice's summons and other notices: and

31 Limits actions for things done under the Act.

JUVENILE OFFENDERS.

[1 and 2 Victoria, c. 82.—10th August, 1838.]

An Act for establishing a Prison for Young Offenders.

Reciting that it may be of great public advantage that a prison be provided in which young offenders may be detained and corrected, and may receive such instruction and be subject to such discipline as shall appear most conducive to their reformation and to the repression of crime; and that the buildings at Parkhurst, in the Isle of Wight, lately used as a military hospital and a medical asylum for the children of soldiers, may be conveniently used for such a prison; accordingly empowers her Majesty to direct such a use of them, according to the provisions of the 5 and 6 Will. IV. c. 38 (see *Companion* for 1836, p. 121), and to appoint a governor, chaplain, and matron, &c.

3. And it shall be lawful for one of her Majesty's principal secretaries of state to direct the removal to Parkhurst prison of any young offender, male or female, as well those under sentence or order of transportation as those under sentence of imprisonment, who, having been examined by an experienced surgeon or apothecary, shall appear to be free from any putrid or infectious distemper, and fit to be removed from the gaol, prison, or place in which such offender shall be confined.

4. Gaolers, &c., having the custody of offenders ordered to be placed there shall cause them to be delivered to the governor thereof, with a certificate specifying such particulars within the knowledge of the sheriff or gaoler concerning such offender as may be from time to time directed by the Secretary of State.

5. Offenders removed from Parkhurst prison as incorrigible, shall be subject to all the consequences of their sentence, as if no order for sending them there had been made.

7 and 8. Secretary of State to make regulations for the government of the prison, and may order the infliction of corporal punishment.

9 and 10. Three or more visitors to be appointed by the Queen in council, who shall visit at least three times in each quarter of a year, and report half yearly to the Secretary of State.

11. Young offenders pardoned conditionally may be committed to the house of correction if they break the condition, and be remitted to their former sentence, if her Majesty think fit.

12. Offenders breaking prison, shall be punished, if under sentence of imprisonment, by an addition not exceeding two years to the term, and if under sentence of transportation, as persons under such sentence escaping are liable to be punished; and if an offender so punished by such addition shall afterwards be convicted of a second escape or breach of prison, he or she shall be guilty of felony.

13. Penalty on rescuing or aiding in the rescue of offenders, felony; and for negligent custody, a misdemeanour.

17. An annual report to be laid before Parliament.

STAMP DUTIES.

[1 and 2 Victoria, c. 85—10th August, 1838.]

An Act to authorise the using in any part of the United Kingdom Stamps denoting Duties payable in Great Britain and Ireland respectively.

This Act enacts, that any deed or instrument liable to any stamp duty in either part of the United Kingdom, and for which any stamp shall be used of sufficient amount, but denoting a duty payable in the other part of the United Kingdom, shall, nevertheless, be deemed valid and effectual in the Law; provided that the Law, Chancery, and Exchequer fund duties in Ireland shall be denoted only by the stamps appropriated for that purpose, and that no stamp specially appropriated on the face of it to one instrument shall be used for any other.

SCHOOLS IN SCOTLAND.

[1 and 2 Victoria, c. 87.—10th August, 1838.

This Act, reciting that the parish schools and other means of education in the highlands and islands of Scotland are wholly inadequate, and some places are altogether destitute of such schools or other means of instruction, and it is desirable that provision should be made against so great an evil, empowers the Treasury to provide out of sums granted for education in Scotland, for the endowment of additional schools.

By s. 3. If the heritors of any parish divided quoad sacra provide schools, &c., they may be endowed: and by s. 4, incapacitated persons are empowered to convey heritages for the purposes of the Act.

6 to 10. Such schools must be maintained by the heritors; and a schoolmaster must be appointed by the heritors and minister within four months after any vacancy, who shall be entitled to the school fees and privileges of parish schoolmasters, under 43 Geo. III., and shall be subject to all the provisions of 47 Geo. III. c. 85.

13. The Commissioners are annually to report to Parliament

PUBLIC RECORDS.

[1 and 2 Victoria, c. 94.—10th August, 1838.]

Reciting that the public records are in the keeping of several persons, and many are kept in unfit buildings, and it is expedient to establish one record office and a better custody, and to allow the free use of the said records as far as stands with their safety and integrity, and with the public policy of the realm; directs that the records belonging to her Majesty at present kept in the various public offices therein enumerated,

shall be henceforth placed in the custody of the Master of the Rolls, but that until the appointment of assistants as hereinafter prescribed, they shall remain as at present.

2. The Queen in Council is empowered to order the records in any other place than that before enumerated to be included in this Act.

3. The various accumulating records are to be delivered to the Master of the Rolls, as therein particularly directed, by warrant, which must be approved by the Lord Chancellor, must specify the record, must refer to a record, which is of the age of 20 years, which may be stayed by the chief judge of any court thinking it inexpedient to remove the record, and which, in particular courts enumerated, must be approved by certain officers.

4 and 5. The Master of the Rolls is to make orders for the preservation of the records, and to appoint a deputy keeper.

6. The Treasury are to appoint assistant record keepers and other necessary officers, to be removable by the Master of the Rolls.

7. The Treasury are to provide additional buildings for the custody of the records.

8 and 9. A public Record Office is to be established under the direction of the Master of the Rolls, and he is to make rules for the management of the office and the admission of persons using the records, and may dispense with fees; but the rules must be laid before Parliament within six weeks, and nothing is to affect the 3 and 4 Will. IV. c. 94. as far as regards the records of chancery not removed under its provisions.

12 and 13. Empower the Master of the Rolls to order authentic copies of records to be made, which shall be sealed with the seal of the Record Office; and so sealed, they shall be evidence.

14 and 15. The Secretary of State may print calendars, indexes, and records, but not till the money has been voted by Parliament, and such calendars, &c., shall be sold at a reasonable sum.

16. The Treasury may purchase private calendars, &c.

17. An annual report is to be laid before Parliament by the deputy keeper of the records.

18. Provides for compensation to the present record keepers.

19. Certifying by any person employed in the Record Office as true any false copies of records, felony, punishable by transportation for life, or not less than seven years, or imprisonment for not more than four.

POSTAGE—PACKET BOATS.

[1 and 2 Victoria, c. 97.—14th August, 1838.]

This Act alters the rate of postage of letters transmitted from Gibraltar to various parts of the Mediterranean by packet boats, which are imposed by the 1 Vic. c. 34 (see *Companion* for 1838, p. 141).

It empowers the Postmaster General to charge rates of postage in any part where packets shall be hereafter established, with the consent of the Treasury; but such rates must be laid before Parliament.

It also authorizes him, with consent of the Treasury, to require the postage thereby imposed, or any postage on letters between places out of the United Kingdom to be paid in advance.

It directs that postage on letters sent between the United Kingdom and places out of it shall be deemed British postage, and that on letters transmitted by packet boats between places out of the United Kingdom shall be deemed packet postage.

MAILS—RAILWAYS.

[1 and 2 Victoria, c. 98.—14th August, 1838.]

This Act, reciting that it is expedient that provision should be made by law for the conveyance of mails by railways at a reasonable rate of charge to the public, empowers the Postmaster General to require railway com-

panies to convey the mails, from and after the day to be named in his notice (being not less than 28 days from the delivery thereof) either by the ordinary trains, or by special trains, as need may be, at such hours or times in the day or night as the Postmaster General shall direct, together with the guards appointed by the Postmaster General and any other officers of the Post Office; but the rate of speed to be required shall in no case exceed the maximum rate prescribed by the Directors for the conveyance of passengers by their first class trains; and no alteration in the rate shall be made until six calendar months previous notice shall be given to the Postmaster General.

2. and 3. If required, a whole carriage shall be applied exclusively to such conveyance, or a separate carriage for sorting letters.

4. Postmaster General may direct mails to be carried on the railway in mail coaches, in lieu of company's carriages.

5. Railway companies to be subject to directions of Post Office respecting the conveyance of mails.

6 and 7. Such remuneration is to be paid to the railway companies for the conveyance of mails, as shall be agreed on between them and the Postmaster, or, in case of difference, as settled by arbitration; but such agreements may be altered on 28 days' notice.

8 and 9. Postmaster General may terminate the services of the railway companies, on notice; or, without notice, on payment of compensation.

12. Penalty for refusing or neglecting to convey the mails, 20*l.*

13. Postmaster General may require railway companies to give security by bond, under penalty for neglect of 100*l.* a day.

14. But lessees of a railway, not being a body corporate or company, are not to be required to give security by bond above 1,000*l.*

16 and 17. For settling the differences between the Postmaster General and railway companies, two arbitrators shall be appointed, and if they differ, an umpire, whose award shall be final; but, at the end of three years the railroad companies may refer them to arbitrators to decide as to their continuance.

PLEADING.

[1 and 2 Victoria, c. 100.—14th August, 1838.]

This Act reciting the power given to the judges to regulate the forms of pleading, and that it was expedient to limit the powers so given, so as to make the exercise of them continually subject to the superintendence and authority of the Crown and of each of the houses of Parliament: accordingly continues the power given, but directs that the rules made in pursuance of it shall not be valid until laid six months before Parliament.

PLURALITIES.

[1 and 2 Victoria, c. 106.—14th August, 1838.]

An Act to abridge the holding of Benefices in Plurality, and to make better Provision for the Residence of the Clergy.

Reciting, that it is expedient to restrain the holding of pluralities, and to make further provision for enforcing the residence of spiritual persons upon their benefices, and to limit the exemptions from such residence; and also to make further provision respecting the appointment and support of stipendiary curates in England: repeals the 21 Hen. VIII., c. 13, and 57 Geo. III., c. 99; except as to penalties already incurred or licenses already granted under them.

2 to 4. Not more than two preferments shall be held together (except as therein specified); nor two benefices, unless within ten miles of each other; nor if the population of one such benefice is more than 3,000, or their joint yearly value shall exceed 1,000*l.*

5. But if the yearly value of one of such benefices be less than 150*l.*,

and the population shall not exceed 2,000 persons, the two may be held jointly, after statement of reasons by the bishop, who may require residence on the larger parish for nine months in the year.

6 and 7. A license or dispensation to hold together any two benefices under this Act, must be obtained from the Archbishop of Canterbury, but previous thereto the bishop of the diocese must certify,

11. Acceptance of preferment contrary to this Act vacates the former preferment.

12 and 13. Present rights of possession saved; and rights accrued by deed or will made before 23rd December, 1837.

15 to 27. Provide for uniting and dissevering benefices. By s. 28, no spiritual person is to farm above 80 acres, without consent of the bishop, and then not beyond seven years, under a penalty of 40*s.* per acre.

29 and 30. No spiritual person, beneficed or performing ecclesiastical duty, shall engage in trade, or buy to sell again for profit or gain; but this shall not extend to spiritual persons engaged in keeping schools, or as tutors, &c., in respect of anything done, or any buying or selling in such employment; or to selling anything *bonâ fide* bought for the use of the family, or to being a manager, &c., in any benefit, or life, or fire assurance society; or buying and selling cattle, &c., for the use of his own lands, &c.

31. Spiritual persons illegally trading may be suspended, and for the third offence deprived.

32. Each incumbent, not having a license or exemption, unless he be resident on another benefice, when such absence shall exceed three months and not exceed six months, shall forfeit one-third part of the annual value of the benefice from which he shall so absent himself; and when such absence shall exceed six months and not exceed eight months, one-half part of such annual value; and when such absence shall exceed eight months, two-third parts of such annual value; and when such absence shall have been for the whole of the year, three-fourth parts of such annual value.

The remainder of this Act (consisting, as it does, of 133 sections) our limits prevent us from doing more than giving a summary of. It empowers bishops to grant licenses for non-residence in cases and manner enumerated; and to appoint curates of non-resident incumbents; it repeals the 11th sec. of 6 and 7 Will. IV., c. 77, and makes provision for Welsh benefices; it directs that no spiritual person shall serve more than two benefices in one day; it prescribes the mode of recovering penalties against spiritual persons in the Bishops' Courts, and against laymen or unqualified clergymen in the courts at Westminster; but enacts, that no penalties shall be recoverable against spiritual persons which have been incurred more than a year: and, finally, directs the mode in which distance and population are to be computed under the Act.

CHURCH BUILDING ACTS.

[1 and 2 Victoria, c. 107.—15th August, 1838.]

This Act amends the various Church Building Acts, and especially the 1 and 2 Will. IV. c. 38. It also extends the provisions of the 1 and 2 Will. IV. c. 45 (see *Companion* for 1832, p. 160) to consolidated chapelries.

IRISH TITHE COMPOSITION ACT.

[1 and 2 Victoria, c. 109.—15th August, 1838.]

An Act to abolish Compositions for Tithes in Ireland, and to substitute Rent-charges in lieu thereof.

Recites that it is expedient to abolish compositions for tithes in Ireland, and to substitute rent-charges payable by persons having a perpetual interest in the lands subject thereto, a reasonable allowance being made for the greater facility and security of collection arising out of such trans-

fer of liability from occupiers to owners. Abolishes all previous compositions for tithes, except those payable by virtue of any agreement under the 2 and 3 Will. IV. c. 119 (see *Companion* for 1833, p. 165); and except compositions for tithes the right whereto may be vested in Her Majesty under the provisions hereof; and except those for which suits may be pending; but if such suits are discontinued, and if the compositions be due for 1834, 1835, 1836, or 1837, the same relief shall be given as other persons entitled to tithes or compositions for tithes for those years may have under this Act.

2. Enacts that all those who would have been entitled to the receipt of compositions for tithes, under the 3 and 4 Will. IV. c. 100, if this Act had not been passed, shall remain liable to the Queen's Majesty for the repayment by instalments of the advances made under authority of the Act mentioned in the 1st section; and that the enactment therein extinguishing the right to compositions for tithes shall not be taken to extend to the additions by the said Act made to such compositions, but that they shall be payable to the persons who would have been entitled to the said compositions, if this Act had not been passed, as if such sums had been by the said Act made separately payable; and that, save as aforesaid, all the provisions in the said first-mentioned Act, shall remain in full force.

3 and 4. Persons liable to the payment of instalments may apply for remission by memorial to the Lord Lieutenant, who may refer the same for investigation, and upon report thereof remit the whole or part thereof; and the person to whom any such memorial is referred, may examine on oath and receive affidavits.

5. Instalments shall not be remitted, if found to be due by any lay impropriator in respect of advances made on account of any tithes or compositions charged upon lands the estate of such impropriator, or if the person liable to such instalment shall be found to have received the whole or some part of the sums so added to the said compositions, or if the whole or some part of the sums so added to the said compositions shall be found to be payable by persons being both the owners and occupiers at the same time of the lands charged with such compositions; and in the two last-mentioned cases so much shall be remitted as shall be equivalent to the sums so added, and which shall not have been received by the person liable to such instalment, or shall not be payable by persons being both the owners and occupiers at the same time of the lands charged with such compositions.

6. In case of the remission of the whole or part of any instalment, the sums added to the composition shall be also remitted, unless due by undertaking landlords or persons who would be liable to the rent-charge.

7. All lands subject to the payment of tithe compositions, shall be charged with an annual sum by way of rent-charge equal to three-fourths of such compositions, to be payable by the party having the first estate of inheritance, &c., in such lands; but one entire sum shall be charged on each estate, although the lands be separately applotted; and the rent-charges shall be computed on the gross amount.

8. Directs what shall be deemed equivalent to an estate of inheritance of perpetual estate.

9. If leases under the laws now in force be free of tithes, the estate held thereunder shall not be liable to the rent-charge; but on the determination of any estate chargeable with rent-charge, the next estate shall become chargeable.

10. If any person who would have been liable to tithe composition hold mediately or immediately under the person liable to such rent-charge, the amount of such rent-charge may be recovered as rent from the next tenant, and so downwards to the person primarily liable.

11. Such leases, &c. of tithes as have now the effect of suspending compositions shall determine, and none other.

12. Where leases at rack-rent have been made, after the establishment of any composition in pursuance of 4 Geo. IV. c. 99, the rents shall be

reduced in proportion to the difference between such composition and the rent-charge payable under this Act.

13 and 14. Compositions for tithes made under 2 and 3 Will. IV. c. 119, may be appealed against in the manner prescribed; which appeals are to be heard as directed by that Act; but no order shall be made, except for confirming the composition, unless fraud, concealment, or misrepresentation, affecting the amount of composition, be proved.

15. Lord Lieutenant may cause applotments to be amended; and when none have been made, they may be applied for as thereby directed.

16. Directs the mode in which the liability of lands to rent-charge, if disputed, shall be tried.

17. When tithe-free lands have been subjected to composition, such composition shall be reduced.

18 to 23. Directs what prescriptions shall be valid in case of claims of exemption from tithes.

24. And the said rent-charges shall be payable to the several persons who would have been, if this Act had not been made, entitled to compositions for tithes arising out of the several lands charged with such rent-charges respectively, and in the same proportions, and vested in such persons, for the like estates, and subject to the like trusts, uses, charges, payments, rents, liens, and incumbrances of what kind soever.

25. And the said rent-charges shall be deemed to be tithes, under the 1 and 2 Vict. c. 56 (*ante* p. 155.)

26. Certificates of compositions shall be conclusive as to the right of the parties entitled thereto, until the decision of the court of competent jurisdiction that other persons than those named are entitled.

27 and 28. Direct how the rent-charges are to be recovered.

29. Where persons liable to payment of rent-charge shall occupy the land, the arrear may be distrained for.

30. Where rent-charge is in arrear, and the person liable thereto shall not be in occupation of the lands charged therewith, or where such person may not be known, a court of equity may order the rents of such lands to be received in liquidation of such rent-charge, &c.

31. Directs how rent-charges, &c. shall be recovered from Quakers.

32. Rent-charges to be variable in like manner as tithe compositions, with reference to the average price of corn, as therein mentioned.

33. Holders of leases of tithes, &c. may surrender the same, or compel the lessors to reduce the rents.

34 to 40. Reciting that of the million pounds granted to the relief of the tithe-owners in Ireland by the 3 and 4 Will. IV. c. 100, 260,000*l.* remained unapplied—which it was expedient to appropriate to the relief of persons who had not received payment of compositions for the four years past—authorises the Treasury to raise that sum by Exchequer Bills as therein mentioned, and place it in the Exchequer as a "tithe arrear account."

41. Persons who may not have received payment of their compositions for 1834, 1835, 1836, or 1837, shall apply for relief by memorial; but such relief shall not extend to compositions payable by undertaking landlords.

42. Upon application for relief under this Act proclamation to be issued, enjoining payment of arrears due by such persons as would be liable to pay rent-charges under this Act, under pain of levying in case of default; and a receipt shall be given to parties making payment, which shall be a sufficient acquittance.

43. In default of obedience to such proclamation, an application by petition shall be made to the Court of Chancery or Exchequer, or Assistant Barrister, for an order against defaulters for the sum due.

46. The expenses of the revision of memorials and schedules to be first defrayed out of the fund in the Exchequer, and the residue distributed rateably among the memorialists.

47. Arrears of instalments of certain monies advanced by Commissioners of First Fruits, and due 1st July, 1835, 1836, 1837, and 1838, not to be sued for.

48. Incumbent to pay money advanced by the Commissioners of First Fruits by yearly instalments of 3*l.* per cent. only, commencing 1st July, 1839.

49 and 50. Tithe Composition Acts and this Act shall extend to Her Majesty.

ARREST FOR DEBT.

[1 and 2 Victoria, c. 110.—16th August, 1838.]

An Act for abolishing Arrest on Mesne Process in Civil Actions, except in certain cases; for extending the Remedies of Creditors against the Property of Debtors; and for amending the Laws for the Relief of Insolvent Debtors in England.

Reciting that the present power of arrest upon mesne process is unnecessarily extensive and severe, and ought to be relaxed; abolishes it accordingly, except as hereafter reserved.

2. All actions shall be commenced by writ of summons.

3. If a plaintiff in any action, in which the defendant is now liable to arrest, whether upon the order of a Judge, or without such order, shall, by the affidavit of himself or of some other person, show, to the satisfaction of a Judge, that such plaintiff has a cause of action to the amount of 20*l.* or upwards, or has sustained damage to that amount, and that there is probable cause for believing that the defendant is about to quit England unless forthwith apprehended, it shall be lawful for such Judge, by a special order, to direct that such defendant shall be held to bail for such sum as such Judge shall think fit, not exceeding the amount of the debt or damages; and thereupon it shall be lawful for such plaintiff, within the time which shall be expressed in such order, to sue out a writ of capias against any such defendant.

4. Sheriff shall, within one month, arrest defendant; who must remain in custody until he finds bail or makes a deposit.

5. Such special order may be made at any stage of the proceedings before final judgment.

6. Defendant may apply for his discharge forthwith, and the Judge may discharge him; but his order may be appealed from.

7. All prisoners now in custody on mesne process, who have not filed petitions under the Insolvent Acts, shall be entitled to be discharged.

8. Enables any creditor of 100*l.*, or any two of 150*l.*, or any three and more of 300*l.* value, to file an affidavit of their debts in the Bankrupt Court, and serve a notice on the debtor; and unless he pay the debt within twenty-one days, he shall be deemed to have committed an act of bankruptcy on the twenty-second day, if a fiat shall issue against him in two months.

11. Sheriffs empowered to deliver execution to judgment creditors of all such lands, tenements, rectories, tithes, rents, and hereditaments, including lands and hereditaments of copyhold or customary tenure, as the person against whom execution is so sued, or any person in trust for him, shall have been seised or possessed of at the time of entering up the said judgment.

12. And they are also empowered to seize money, bank notes, &c., and to pay them over to the execution creditors; and to sue for the amount secured by Bills of Exchange and other securities; but, in this latter case, they must be previously indemnified by the creditors.

13. Every judgment is to operate as a charge on all real estate belonging at the time, or even afterwards, to the debtor; but the charge must not be enforced by the creditor till the expiration of a year after the date of the judgment.

14 and 15. Stock and shares in public funds and public companies, belonging to the debtor and standing in his own name, may be charged in execution by order of a Judge; which shall be made in the first instance

ex parte, and on notice to the bank or Company, shall operate as a distringas.

16. But all securities, if not realised, shall be relinquished, if the person be taken in execution.

23 to 34. Continue the present Court for the Relief of Insolvent Debtors, and direct the circuits of the Commissioners, &c.

35. Persons imprisoned for debt may apply to the court in a summary way for discharge, as therein particularly directed.

36 and 37. Detaining creditors of prisoners in execution may apply by petition to Insolvent Debtors' Court for an order to vest their debtor's estate in the provisional assignee of the court; and the court may order all his estates and effects, except wearing apparel, &c., not exceeding 20*l.*, to be vested in such provisional assignee.

The remaining sections of this Act refer to the proceedings of the Court for Relief of Insolvent Debtors; but, as the Act consists of 122 sections, it is impossible for us to do more than refer in this summary manner to them. By the 104th section, prisoners confined under writs of extent or capias, must apply to the Barons of the Exchequer to be discharged.

LOWER CANADA—INDEMNITY.

[1 and 2 Victoria, c. 112.—16th August, 1838.]

This Act, reciting the previous Act, c. 9 (see *ante*, p. 144), and that a certain ordinance had been made thereunder, dated 28th June last, which could not be justified by law, but was so much intended for the security of the said province that it was expedient all persons administering or acting thereunder should be indemnified by Parliament — indemnifies them accordingly.

PERSONAL DILIGENCE—SCOTLAND.

[1 and 2 Victoria, c. 114.—16th August, 1838.]

This Act amends the law of Scotland in matters relating to personal diligence, arrestments, and poindings, by improving the form and diminishing the expense of the proceedings.

SHERIFF COURTS—SCOTLAND.

[1 and 2 Victoria, c. 119.—16th August, 1838.]

This Act, reciting that the office of Sheriff and the Sheriff Courts in Scotland have been found to be of great utility, by affording in all ordinary cases a cheap and speedy administration of justice, and that it is expedient to regulate the constitution and enlarge the jurisdiction of Sheriff Courts, and to amend the forms of proceedings therein—repeals the provision of 20 Geo. II., which requires residence of the Sheriffs in their counties.

2. Requires every Sheriff Depute to hold four ordinary courts between December and May, and four other such courts between June and November, giving fourteen days previous notice; and also requires him to make a return to the Secretary of State of the number of courts held and causes disposed of—and to attend habitually the Court of Session—under pain, for neglect, of admonition for the first offence, and of deprivation for the second.

3 to 5. Sheriff Substitutes shall not be removable, except with the consent of the Lord President and Lord Justice Clerk; and shall continue to hold office on the death of Deputes; and shall constantly reside within their sheriffdoms.

8 and 9. And where heritable subjects in Scotland are let for any shorter period than a year, at a rent of which the rate shall not exceed 30*l.* per

annum, it shall be competent to any person entitled to pursue or, removing therefrom, to present a summary complaint to the Sheriff, who shall order it to be served, and proceed thereon if the defender does not appear who, however, may petition for a re-hearing, which the Sheriff, if he think it reasonable, may grant.

10 and 11. Fees to be the same as those awarded by 1 Vict. c. 41 (see *Companion* for 1838, p. 146); and citation and farther procedure in such summary removings shall be the same as those provided for small-debt causes by that Act. The judgment shall be final.

12. Sheriff may adjourn the cause.

13. Where defender has found caution, he may give in written answers.

15. Sheriffs' jurisdiction extended to questions of nuisance and servitude.

17. Additional court-days to be appointed to dispose of arrears of business.

18. Sheriffs may repone against decrees made in the absence of the parties.

19. Suspensions shall be competent in Sheriffs' Courts for sums under 25*l.*

21. Removing doubts on the subject, enacts that the jurisdiction in maritime causes, given to the Sheriffs by the 1 Will. IV. c. 69, shall extend to the power formerly competent to the High Court of Admiralty.

25. Sheriffs' criminal warrants may be executed out of the county.

26. Sheriff of two counties may hold Commissary Court in either.

32. And to preserve uniformity in the proceedings of Sheriff Courts, the several Sheriffs shall meet in Edinburgh, and submit propositions, &c.

33. Agents qualified to practise before Court of Session may practise in Sheriff Courts.

MEMORANDUM.

[The following List contains the Public Acts not included in the foregoing Abstract.]

1 and 2 Victoria.

1. An Act to continue for six calendar months all such commissions of the peace as were in force at the time of the decease of his late Majesty King William IV., and as have not been superseded, determined, or made void during the reign of her present Majesty.

11. An Act to apply the sum of 2,000,000*l.* to the service of the year 1838.

12. An Act for raising the sum of 11,413,750*l.* by Exchequer bills, for the service of the year 1838.

13. An Act to enable the grand juries of the county and county of the city of Waterford to make presentments, at the Spring assizes for the year 1838, for the house of industry of the said counties.

16. An Act to indemnify such persons in the United Kingdom as have omitted to qualify themselves for offices and employments, and for extending the time limited for those purposes respectively until the 25th day of March, 1839; and for the relief of clerks to attorneys and solicitors in certain cases.

17. An Act for punishing mutiny and desertion, and for the better payment of the army and their quarters.

18. An Act for the regulation of her Majesty's Royal Marine forces while on shore.

21. An Act to apply the sum of 8,000,000*l.*, out of the Consolidated Fund, to the service of the year 1838.

22. An Act to enable the Commissioners for the Affairs of India to make rules and regulations for Haileybury College.

26. An Act for raising the sum of 13,000,000*l.* by Exchequer bills, for the service of the year 1838.

30. An Act for continuing the bishoprick of Sodor and Man.

33. An Act for granting to her Majesty, until the 5th day of July, 1839, certain duties on sugar imported into the United Kingdom, for the service of the year 1838.

34. An Act to continue for five years, and from thence until the end of the then next session of Parliament, an Act of the 2nd and 3rd years of the reign of his late Majesty, to restrain for five years, in certain cases, party processions in Ireland.

36. An Act to make further provisions, and to amend the Acts relating to the harbour of Kingstown and the port and harbour of Dublin.

42. An Act to empower the Commissioners of her Majesty's Woods, Forests, and Land Revenues, to confirm the titles to and to grant leases of encroachments in the Forest of Dean in the county of Gloucester.

43. An Act for regulating the opening and working of mines and quarries in the Forest of Dean and hundred of St. Briavels, in the county of Gloucester.

45. An Act to extend the jurisdiction of the judges of the superior courts of common law; to amend chapter 56 of the first year of her present Majesty's reign for regulating the admission of attorneys; and to provide for the taking of special bail in the absence of the judges.

46. An Act to continue until the 31st day of December, 1841, and from thence to the end of the then next session of Parliament, an Act of the 10th year of his late Majesty King George IV. for providing for the Government of his Majesty's settlements in Western Australia, on the western coast of New Holland.

47. An Act for the better and more effectually carrying into effect the treaties and conventions made with Foreign Powers for suppressing the slave trade.

49. An Act to transfer the management of certain Annuities on lives from the trustees of the Waterloo Subscription Fund to the Commissioners for the Reduction of the National Debt, and to amend several Acts for enabling the said Commissioners to grant life annuities and annuities for terms of years.

50. An Act to continue until the 31st day of December, 1839, and from thence to the end of the then next session of Parliament, an Act of the 9th year of his Majesty King George IV., for the administration of justice in New South Wales and Van Diemen's Land.

51. An Act to amend the laws relating to the levy of grand jury cess in the county of the city of Dublin.

52. An Act to continue for five years, and from thence until the end of the then next session of Parliament, an Act of the 5th and 6th years of his late Majesty, for the regulation of the linen and hempen manufactures in Ireland.

53. An Act to amend an Act of the last session of Parliament for providing more effectual means to make treasurers of counties and counties of cities in Ireland account for public monies, and to secure the same.

54. An Act for making further investments from the money of the suitors of the Court of Chancery and the Court of Exchequer, and for providing for the payment into Court of fees received by certain officers of the Lord Chancellor.

57. An Act to appoint additional commissioners for executing the acts granting a land tax and duties on personal estates, offices, and pensions.

58. An Act to vest in the Commissioners of the Treasury the powers heretofore exercised by commissioners appointed for certain purposes relating to the redemption of the land tax; and to authorise the Court of Exchequer to determine disputes as to the division in which lands are liable to be rated to the land tax.

60. An Act to amend an Act of the 4th and 5th years of his late Majesty, empowering his Majesty to erect South Australia into a British province or provinces.

61. An Act to amend an Act for enabling persons to make deposits of stock or Exchequer bills in lieu of giving security by bond to the Postmaster-General and Commissioners of Land Revenue, Customs, Excise, Stamps, and Taxes.

62. An Act to enable masters of the Court of Chancery in Ireland, upon application to that Court by petition, to execute renewals of leases for lives, containing covenants for renewal in the names of persons bound by such covenants to execute the same, and being out of the jurisdiction of the Court; and to extend such powers to cases of terms for years, whether absolutely or dependent upon lives.

63. An Act to amend the acts relating to the police of the district of the Dublin metropolis.

64. An Act to facilitate the merger of tithes in land.

65. An Act for relieving the Commissioners and others acting in the execution of divers local improvement acts from certain penalties and disabilities.

66. An Act for maintaining a lighthouse at Gibraltar, and respecting lighthouses not within the United Kingdom.

68. An Act to continue until the 1st day of June, 1840, and to the end of the then session of Parliament, the local turnpike Acts for Great Britain which expire with this or the ensuing session of Parliament.

70. An Act to extend the powers of an Act of the 6th and 7th years of the reign of his late Majesty, in relation to granting tacks and making excambions by heirs of entail.

71. An Act to amend and continue for one year, and from thence to the end of the then next session of Parliament, the several Acts relating to the importation and keeping of arms and gunpowder in Ireland.

72. An Act to continue for one year, and from thence until the end of the then next session of Parliament, the several acts for regulating the turnpike roads in Ireland.

73. An Act to continue for three years, and from thence to the end of the then next session of Parliament, two Acts relating to the care and treatment of insane persons in England.

76. An Act to explain and amend certain provisions in Acts of the Parliament of Ireland for the protection of fisheries in that kingdom.

78. An Act for the amendment of the laws relating to loan societies in Ireland.

80. An Act for the payment of constables for keeping the peace near public works.

81. An Act further to postpone until the 1st day of January, 1840, the repayment of certain sums advanced by the Bank of Ireland for the public service.

83. An Act for carrying into effect a convention of accession of the Duke of Tuscany to two conventions with the King of the French for suppressing the slave trade.

84. An Act for carrying into effect a convention of accession of the King of the Two Sicilies to two conventions with the King of the French for suppressing the slave trade.

86. An Act to diminish delay and expense in advocations and suspensions in the Court of Session in Scotland.

88. An Act to authorise a further issue of Exchequer bills for public works and fisheries and employment of the Poor, and to amend the Acts relating thereto.

89. An Act respecting the transfer of certain funds to the Secretary at War and the Paymaster General.

90. An Act to suspend until the end of the next session of Parliament the making of lists and the ballots and enrolments for the militia of the United Kingdom.

91. An Act to defray the charge of the pay, clothing, and contingent and other expenses of the disembodied militia in Great Britain and Ireland; and to grant allowances in certain cases to subaltern officers, ad-

jutants, paymasters, quartermasters, surgeons, assistant-surgeons, surgeons' mates, and serjeant-majors of the militia, until the 1st day of July, 1839.

92. An Act to repeal the 4½ per cent. duties.

93. An Act for raising the sum of 11,044,550*l.* by Exchequer bills, for the service of the year 1838.

95. An Act to provide for the payment of certain pensions.

96. An Act to amend, until the end of the next session of Parliament, the law relative to legal proceedings by certain joint-stock banking companies against their own members, and by such members against the companies.

101. An Act to revive and continue an Act of the first and second years of his late Majesty, to enable his Majesty to make leases, copies, and grants of offices, lands and hereditaments, parcel of the duchy of Cornwall, or annexed to the same; and to make provision for rendering to Parliament annual accounts of the receipts and disbursements of the duchies of Cornwall and Lancaster.

102. An Act to revive and continue, until six months after the commencement of the next session of Parliament, and to amend an Act for authorising her Majesty to carry into immediate execution, by orders in council, any treaties made for the suppression of the slave trade.

103. An Act to restrain the alienation of corporate property in certain towns in Ireland.

104. An Act to authorise the county of Clare to borrow a sum of money for the relief of the creditors and others remaining unpaid by reason of the default of the late Treasurer of the said county, to provide for the repayment of the same, and to direct proceedings to be taken in reference to the default of such late Treasurer.

105. An Act to remove doubts as to the validity of certain oaths.

108. An Act for suspending until the 1st day of August, 1839, and to the end of the then session of Parliament, the appointment to certain dignities and offices in cathedral and collegiate churches, and to sinecure rectories.

111. An Act to apply a sum out of the Consolidated Fund, and the surplus of Ways and Means, to the service of the year 1838, and to appropriate the supplies granted in this session of Parliament.

113. An Act to amend the laws relating to the Customs.

115. An Act to amend an Act of the sixth and seventh years of his late Majesty, for the uniform valuation of lands and tenements in Ireland, and for incorporating detached portions of counties and baronies with those counties and baronies respectively whereto the same may adjoin or wherein the same are locally situate.

116. An Act to facilitate advances out of county monies for the support of county gaols and institutions in Ireland.

117. An Act to provide for the custody of certain monies paid in pursuance of the standing orders of either house of Parliament by subscribers to works or undertakings to be effected under the authority of Parliament.

118. An Act to make certain alterations in the duties of the Lords Ordinary, and in the establishment of clerks and officers of the Court of Session and Court of Commissioners for Teinds in Scotland, and to reduce the fees payable in those courts.

120. An Act for the abolition of the duties payable on the coinage of tin in the counties of Cornwall and Devon, and for giving compensation in lieu of such duties, and to reduce the duties of customs payable on tin.

XX.—ABSTRACTS OF PARLIAMENTARY DOCUMENTS, &c.

*** In some of the following Abstracts of Accounts there will be occasional apparent errors in the Totals, arising from the omission of fractional sums.

I.—*Finance.*

An Account of the Total Income of the Revenue of Great Britain and Ireland in the Year ended 5th January, 1838, after deducting the Repayments, Allowances, Discounts, Drawbacks, and Bounties in the nature of Drawbacks; together with an Account of the Public Expenditure of the United Kingdom, exclusive of the Sums applied to the Reduction of the National Debt, within the same period:—

Ordinary Revenues.

	Net Receipts.
Balances and Bills outstanding on 5th January, 1837 .	£ 1,741,515
Customs	22,063,118
Excise	14,518,142
Stamps (including Hackney Coach and Hawkers' and Pedlers' Licences)	7,039,538
Taxes under the Management of the Commissioners of Stamps and Taxes	3,890,146
Post Office	2,339,738
One Shilling in the Pound and Sixpence in the Pound on Pensions and Salaries, and Four Shillings in the Pound on Pensions	6,791
Crown Lands	419,780
Small Branches of the Hereditary Revenue	5,067
Surplus Fees of Regulated Public Offices	32,846
Poundage Fees, Pells Fees, Casualties, and Treasury Fees in Ireland	1,477
	£50,316,648
	£52,058,163
Deduct Balances and Bills outstanding on 5th Jan., 1838	1,670,814
Total Ordinary Revenue	£50,387,349

Other Resources.

Money received from the East India Company, on account of Retired Pay, Pensions, &c., of Her Majesty's Forces serving in India, per Act 4 Geo. IV. c. 71	£60,000
From the Trustees of the King of the Belgians, the Amount repaid into the Exchequer for the use of the Consolidated Fund out of the Annuity granted to Prince Leopold .	33,500
Imprest Monies repaid by sundry Public Accountants, and other Monies paid to the Public	128,105

Money received from the Bank of England on account of Unclaimed Dividends		54,398
		276,004
		50,663,353
Excess of Expenditure over Income		655,760
		£51,319,113
Balances in the hands of Receivers, &c., on 5th Jan., 1837		1,741,515
Ditto ditto 5th Jan., 1838		1,670,814
		70,700
Excess of Expenditure over the Income		655,760
Actual Excess of Expenditure		£ 726,460

EXPENDITURE.

Charges of Collection	£ 3,430,679
Other payments	757,479
Total Payments out of the Income, in its progress to the Exchequer	4,188,159
FUNDED DEBT.	
Interest and Management of the Permanent Debt	24,357,137
Terminable Annuities	4,195,744
Total Charge of Funded Debt, exclusive of £7,221 14 10, the Interest on Donations and Bequests	28,552,882
UNFUNDED DEBT.	
Interest on Exchequer Bills	936,687
	29,489,570
Civil List	444,065
Annuities and Pensions for Civil, Naval, Military, and Judicial Services charged by various Acts of Parliament on the Consolidated Fund	578,966
Salaries and Allowances	194,042
Diplomatic Salaries and Pensions	188,140
Courts of Justice	674,452
Miscellaneous Charges on the Consolidated Fund	331,788
	2,411,456
Army	6,521,715
Navy	4,750,658
Ordnance	1,444,523
Miscellaneous Charges upon the Annual Grants of Parliament	2,513,029
	15,229,927
Total	£51,319,113

THE REVENUE.

An ABSTRACT of the NET PRODUCE of the REVENUE of GREAT BRITAIN, in the Years and Quarters ended 10th October, 1837 and 1838, showing the Increase or Decrease on each head thereof.

	Quarters ended Jan. 5, 1837.	Quarters ended April 5, 1837.	Quarters ended July 5, 1837.	Quarters ended Oct. 10, 1837.	Year ended Oct. 10, 1837.	Quarters ended Jan. 5, 1838.	Quarters ended April 5, 1838.	Quarters ended July 5, 1838.	Quarters ended Oct. 10, 1838.	Year ended Oct. 10, 1838.	Year ended Oct. 10, 1838. Increase.	Year ended Oct. 10, 1838. Decrease.	Quarter ended Oct. 10, 1838. Increase.	Quarter ended Oct. 10, 1838. Decrease.
CUSTOMS:—	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Consolidated Duties	3,297,765	3,267,029	3,121,126	3,931,082	. . .	3,629,708	3,153,007	3,453,052	3,990,050					
Sugar Duty applicable to Consolidated Fund	. . .	273,010	1,309,259	. . . .	. . . .	. . . .	303,268	1,316,348						
Sugar Duty applicable to Supplies	772,173	896,466	. . . .	1,505,034	. . . .	893,570	605,395	. . . .	1,479,221					
Total Customs	4,069,938	4,436,505	4,430,385	5,436,116	18,372,944	4,523,278	4,061,670	4,769,400	5,469,271	18,823,619	450,675	. . . .	33,155	
EXCISE	3,803,764	1,834,443	2,663,564	3,705,467	12,007,238	3,590,864	1,705,853	2,437,112	4,093,959	11,827,788	. . . .	179,450	388,492	
STAMPS	1,673,529	1,618,462	1,647,039	1,622,252	6,461,282	1,544,400	1,648,194	1,692,134	1,751,476	6,636,204	174,922	. . . .	129,224	
TAXES	1,594,660	181,219	1,609,409	302,092	3,693,380	1,579,028	130,576	1,609,508	328,045	3,647,157	. . .	46,223	19,953	
POST-OFFICE	349,000	367,000	356,737	418,006	1,490,743	376,000	369,000	381,000	410,000	1,536,000	45,257	. . . .	. . .	8,006
CROWN LANDS	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	65,000	. . . .	65,000	130,000	130,000	. . . .	65,000	
MISCELLANEOUS	9,873	26,384	5,727	2,701	44,695	174	25,841	10,390	8,376	44,781	146	. . . .	5,675	
Total Ordinary Revenue	11,400,764	8,463,963	10,712,861	11,492,634	42,070,222	11,613,744	8,066,134	10,899,544	12,126,127	42,645,549				
Imprest and other Moneys, including Repayments of Advances for Public Works	187,995	158,171	270,719	200,531	817,416	188,188	123,580	448,418	222,948	983,134	165,718	. .	22,417	
Total Income	11,588,759	8,622,134	10,983,580	11,693,165	42,887,638	11,801,932	8,129,714	11,347,962	12,349,075	43,628,683	966,718	225,673	663,916	8,006
											225,673	Deduct Decrease	8,006	Deduct Decrease
The Amount applic' to the Consolidated Fund	8,423,535	5,780,326	7,251,669	8,712,692	29,396,049	9,011,342	6,184,349	6,829,102	9,767,134	32,091,927				
											741,045	Increase on the Year.	655,910	Increase on the Quarter.
Ditto as part of the Ways and Means of the Year	3,165,224	2,841,808	3,731,911	2,980,473	13,491,589	2,790,590	1,645,365	4,581,860	2,581,941	11,536,756				
	11,588,759	8,622,134	10,983,580	11,693,165	42,887,638	11,801,932	8,129,714	11,347,962	12,349,075	43,628,683				

An Account of the Public Funded Debt of Great Britain and Ireland, and the Charge thereupon, on the 5th of January, 1838.

		Debt. £.	Charge. £.
Total Debt on 5th Jan., 1837.	Great Britain .	727,959,227	27,347,580
	Ireland . . .	33,463,343	1,185,612
		671,422,570	28,533,192
Debt created in the Year 1837.	Great Britain .	2,539,140	82,484
	Ireland . . .	742,346	24,543
		3,281,486	107,027
	Total . .	764,704,057	28,640,220
Debt reduced in the Year 1837.	Great Britain .	1,640,765	89,067
	Ireland . . .	788,403	26,413
		2,428,868	115,480
Total Debt on 5th Jan., 1838.	Great Britain .	728,857,902	27,340,997
	Ireland . . .	33,417,286	1,183,742
		762,275,188	28,524,739*
	Total . .	764,704,057	28,640,220

SINKING FUND.

Applicable between	On account of The Sinking Fund. £. s. d.	Donations and Bequests. £. s. d.
5 April and 5 July, 1837 . .	532,523 0 1	314 8 7
5 July and 10 Oct., 1837 . .	465,705 16 4	3,275 4 11
10 Oct., 1837, and 5 Jan., 1838	302,381 11 4	373 7 5
5 Jan. and 5 April, 1838 . .	Nil.	3,275 4 11
	1,300,610 7 9	7,238 5 10

The Act 10 Geo. IV., c. 27, which came into operation on the 5th July, 1829, enacts, That the sum thenceforth annually applicable to the reduction of the National Debt of the United Kingdom shall be the sum which shall appear to be the amount of the whole actual annual surplus revenue, beyond the expenditure of the said United Kingdom; and the above sums have been accordingly received by the Commissioners to be applied to the reduction of the said Debt, including sums on account of donations and bequests.

An Account of the Gross and Net Produce of the Duties of Customs in the United Kingdom in the Year ended 5th January, 1838, compared with the Produce in the preceding Year:—

* This sum includes 28,367,298*l.* due to the public creditor, and 157,441*l.* for charges of management.

	Years ended 5th January	
	1837.	1838.
	£.	£.
Gross Receipt of Duties Inwards . .	23,667,235	22,688,806
„ Outwards . .	128,060	98,102
Total Gross Receipt of Customs Duties	23,795,295	22,786,908
Payments out of Gross Receipt:—For Drawbacks and Bounties: viz. On British Refined Sugar . .	555,784	496,948
„ On other articles .	233,785	179,290
Allowances on quantities over-entered, damages, &c.	118,066	167,581
Total Payments out of Gross Receipt .	907,725	843,819
Net Receipt of Customs Duties . .	22,887,579	21,943,089

Account of Gross Receipts of Revenue of Customs Duties Outwards paid in Year ending Jan. 5th, 1838:—

	England.	Scotland.	Ireland.
	£.	£.	£.
Coals and Culm exported .	8,979	444	..
British Sheep and Lambs' Wool, Woollen Yarn, &c., exported	2,300	..	..
Skins exported	32	..	..
Per-Centage Duty on British Goods exported	81,755	3,319	1,270
Total Duties Outwards .	93,068	3,764	1,270

An Account of the Gross Receipt of the Revenue of Excise in Great Britain and Ireland, in the Year ending Jan. 5th, 1838, distinguishing the Amount collected on each Article:—

	England.	Scotland.	Ireland.
	£.	£.	£.
Auctions	242,815	20,661	13,044
Bricks	435,313	9,829	..
Glass	851,614	57,023	10,407
Hops	348,066	..	..
Licences	792,639	103,860	123,739
Malt	4,602,811	591,546	282,393
Paper	485,727	92,244	22,181
Post-horse Duty . .	203,355	18,718	..
„ Licences .	3,211	323	..
Soap	849,760	77,488	..
Spirits	2,188,501	1,452,602	1,374,429
Vinegar	21,447	129	357
	11,025,264	2,424,426	1,826,554
Law Costs recovered .	695	275	2,196
Fines, Forfeitures, &c. .	7,090	2,290	6,641
	11,033,050	2,426,992	1,835,392

An Account of the Gross Receipt of the Revenue of Stamps in Great Britain and Ireland, including Hackney Carriages and Hawkers' and Pedlers' Licences, in the Year ending Jan. 5th, 1838:—

	England. £.	Scotland. £.
Deeds and other Instruments, not included under any of the following heads	1,372,747	112,813
Probates of Wills and Letters of Administration	965,768	58,233
Bills of Exchange	416,906	92,660
Bankers' Notes	14,815	5,765
Composition for the Duties on the Bills and Notes of the Banks of England, and of Country Bankers	90,559	..
Receipts	153,775	15,659
Marine Insurances	204,149	20,680
Licences and Certificates	186,533	22,522
Newspapers and Supplements, and Papers for Advertisements	182,998	18,671
Medicine	30,309	186
Legacies	1,103,303	76,662
Fire Insurances	805,996	57,200
Gold and Silver Plate	89,561	4,620
Cards	13,294	..
Dice	1,163	..
Advertisements	90,501	11,438
Stage Carriages	466,838	32,111
Post Horses	14,720	..
Hackney Carriages	45,280	..
Penalties in Law Proceedings, and Costs received	1,701	311
	6,250,923	529,538

The gross receipt of this branch of the Revenue in Ireland, in 1837, was 475,677*l.* The principal items were—Bills of exchange, 81,593*l.*; receipts, 15,404*l.*; composition on bankers' bills and notes, 16,928*l.*; fire insurances, 40,114*l.*; newspapers, 21,755*l.*; advertisements, 8,679*l.*: probates, 44,254*l.*; legacies, 29,008*l.*; deeds and other law proceedings, 125,480*l.*

An Account of the Gross Receipt of the Revenue of Taxes in Great Britain, for the Year ended Jan. 5th, 1838:—

	England. £.	Scotland. £.	Great Britain. £.
Land Tax on Lands and Tenements	1,158,814	38,176	1,196,991
Assessed Taxes.			
Windows	1,172,105	86,174	1,258,280
Servants	187,010	14,102	201,112
Carriages	411,443	29,875	441,318
Horses for riding, &c.	301,358	18,976	320,335
Other Horses and Mules	56,392	4,000	60,392
Dogs	145,012	10,974	155,987
Horse Dealers	12,154	1,167	13,321

Revenue of Taxes *continued.*	£.	£.	£.
Hair Powder	6,986	255	7,241
Armorial Bearings	57,952	3,845	91,797
Game Duties	133,446	10,215	143,661
Composition Duty	23,674	9,780	33,454
Penalties in Law Proceedings and Costs received . . .	1,338	..	1,338
Land and Assessed Taxes .	3,667,688	227,545	3,895,234
Miscellaneous Receipts . .	..	61	61
Arrears of Property Duty . .	46	..	46
Grand Totals . .	3,667,735	227,607	3,895,342

An Account of the Gross and Net Produce of the Post Office Revenue of Great Britain and Ireland, in the Year ended Jan. 5th, 1838:—

	England. £.	Scotland. £.	Ireland. £.
Unpaid Letters Outwards, and Paid Letters Inwards, and Ship Letters, &c. (including 5th Clause and Penny Post Letters), charged on Country Postmasters	492,105	89,664	117,643
Unpaid Letters Inwards, and Paid Letters Outwards, collected by Letter Carriers, &c., in London, Edinburgh, and Dublin	504,299	39,815	65,531
By and Cross Road Letters .	692,547	87,960	73,057
	1,688,952	217,440	256,234
Twopenny and Penny Post Letters at London, Edinburgh, and Dublin	125,917	3,608	4,538
Letters charged on the Postmasters in the West Indies and British North America .	78,904	..	..
Postage of Letters received by the Windowmen, &c., of the Foreign Office	75,586	..	..
Passage Money and Freight by the Packets	7,963	..	..
Miscellaneous Receipts . .	2,588	10	524
Grand Total . .	1,979,913	221,059	261,296
Deduct Returned, Refused, Missent, and Re-directed Letters, Overcharges, and Returns .	85,524	11,455	25,551
Net Produce . .	1,894,388	209,604	235,744

Total Charges of Collecting the Revenue of Great Britain and Ireland for the Year ended 5th January, 1838:—

	Great Britain.	Ireland.	United Kingdom.
Customs	£1,055,787	£239,030	£1,294,817
Excise	861,674	189,540	1,051,214
Stamps, &c.	150,319	23,297	173,616
Taxes	189,895	,,	189,895
Post Office	574,310	106,948	681,259
Pensions (Poundage)	124	,,	124
Crown Lands	397,511	,,	397,511
Total Charge of Collection	£2,871,862	£558,816	£3,430,679

Rate per Centum for which the Gross Receipt of Revenue was collected in the United Kingdom for the Year ended 5th January, 1838:—

	Great Britain.	Ireland.	United Kingdom.
Customs	£5 0 8¾	£12 5 8¼	£5 13 0½
Excise	6 8 0	10 6 6⅓	6 17 5
Stamps	2 4 4	4 17 11½	2 7 10¼
Taxes	4 17 6	,,	4 17 6
Post Office	26 1 10½	40 18 7	27 13 4¼
Pensions (Poundage) &c.	1 16 6¼	,,	1 16 6¼
Crown Lands	9 9 4½	,,	9 9 4½
Average	£6 3 0	£12 7 3¼	£6 11 2¾

II.—*Currency.*

An Account of the Quantity of Gold and Silver received at, and delivered from, the Bank of England during the Years 1835-6-7; specifying the Quantity for each Quarter during 1837.

	Received.		Delivered.	
	Gold. lbs.	Silver. lbs.	Gold. lbs.	Silver. lbs.
1st Quarter	8,847	154,304	6,921	132,652
2nd ,,	19,752	294,635	6,282	293,582
3rd ,,	41,551	406,288	21,096	304,971
4th ,,	33,880	465,920	14,962	314,209
	184,030	132,147	29,261	1,045,414
Total in 1836	29,157	822,704	52,351	942,994
,, in 1835	41,178	970,466	11,227	870,524

The preceding weights are partly by estimation; and many packages of bullion, not included in the above account, are brought into and delivered from the Bank as packages, their contents being unknown.

An Account of the Value of Bank Notes and Bank Post Bills in Circulation at the close of each Quarter in the Year 1837:—

	Bank Notes.	Bank Post & 21 Days' Bills.	Total.
Amount in circulation at	£.	£.	£.
close of 1st Quarter	16,801,140	1,139,950	17,941,090
2nd ,,	16,214,420	971,510	17,185,930
3rd ,,	16,707,730	1,143,310	17,845,040
4th ,,	16,175,980	910,630	17,086,610

Value of Monies Coined at the Mint during the Years 1836 and 1837 :—

	1836.	1837.
Sovereigns	1,717,694	1,172,984
Half-sovereigns	70,087	80,103
Total Gold coined	1,787,782	1,253,088
Half-crowns	198,594	22,572
Shillings	178,398	23,958
Sixpences	49,698	12,672
Fourpences	70,884	16,038
Threepences, West Indies	5,148	534
Threehalfpences	990	191
Maundy money	145	145
Total Silver coined	503,857	76,111
Pennies	224	728
Halfpennies	224	728
Farthings	1,344	3,136
Half-farthings for Ceylon	..	504
Total Copper coined	1,792	5,096

An Account of the Average Annual Amount of the Circulation of the Bank of England during each alternate Year from 1828 to 1834, and each successive Year from 1834 to 1837 inclusive, distinguishing the Amounts issued respectively in London and at each of the Branch Banks :—

Banks.	1828	1830	1832	1834	1835	1836	1837
Opened	£.	£.	£.	£.	£.	£.	£.
Gloucester (1826)	41,000	49,000	58,000	39,000	40,000	85,000	213,000
Manchester (1826)	258,000	904,000	1,329,000	1,619,000	1,498,000	1,575,000	1,520,000
Swansea (1826)	60,000	47,000	52,000	60,000	71,000	82,000	99,000
Birmingham (1827)	133,000	268,000	419,000	357,000	322,000	372,000	436,000
Liverpool (1827)	64,000	212,000	411,000	618,000	765,000	873,000	820,000
Bristol (1827)	24,000	85,000	122,000	102,000	90,000	78,000	83,000
Leeds (1827)	16,000	106,000	205,000	236,000	253,000	267,000	215,000
Exeter (1827)	10,000	23,000	32,000	36,000	7,000	3,000	2,000
Newcastle (1828)	8,000	35,000	53,000	60,000	107,000	126,000	245,000
Hull (1829)	,,	64,000	63,000	61,000	54,000	69,000	80,000
Norwich (1829)	,,	25,000	32,000	26,000	19,000	14,000	13,000
Plymouth (Remd. from Exeter 1834)	,,	,,	,,	43,000	63,000	67,000	73,000
Portsmouth (1834)	,,	,,	,,	36,000	63,000	60,000	111,000
Country Issues	614,000	1,818,000	2,776,000	3,293,000	3,357,000	3,671,000	3,910,000
London Issues	21,097,000	20,552,000	18,142,000	18,028,000	18,083,000	17,839,000	18,328,000

An Account of the Aggregate Amount of Notes circulated in England and Wales by Private Banks, and by Joint Stock Banks and their Branches, in the Quarter ending September 1834-5-6-7-8; and for each Quarter in the Year ending 30th September. 1838 :—

Quarters Ending.	Private Banks.	Joint Stock Banks.	Total.
27th Sept. 1834	£8,370,423	£1,783,689	£10,154,112
26th Sept. 1835	7,912,587	2,508,036	10,420,623
24th Sept. 1836	7,764,824	3,969,121	11,733,945
30th Sept. 1837	6,701,996	3,440,053	10,142,049

Quarters Ending.	Private Banks.	Joint Stock Banks.	Total.
30th Dec. ,, . .	7,043,470	3,826,665	10,870,135
31st March 1838 . .	7,005,472	3,921,039	10,926,039
30th June ,, . .	7,383,247	4,362,256	11,745,503
30th Sept. ,, . .	7,083,811	4,281,151	11,364,962

Number of Persons to whom Half-yearly Dividends were payable at the Bank or England on the 10th October, 1837:—91,158; on the 5th January, 1838:—189,408; total 280,566. Number of the above receiving Dividends at or under—

£5.	£10.	£50.	£100.	£200.	£300.	£500.	£1000.	£2000.	Exceeding £2000.
86,927	45,020	98,598	25,983	14,778	4,583	2,752	1,363	375	187

Statement of the Quarterly Average of the Weekly Liabilities and Assets of the Bank of England, from the *London Gazette*, exhibiting the Average Amount under each Head, from Sept. 1837, to Nov. 1838.

Quarter ending	LIABILITIES.			ASSETS.		
	Circulation.	Deposits.	Total.	Securities.	Bullion.	Total.
1837.	£.	£.	£.	£.	£.	£.
Oct. 17th	18,716,000	10,501,000	29,217,000	25,316,000	6,856,000	32,172,000
Nov. 14th	18,344,000	10,242,000	28,586,000	23,985,000	7,432,000	31,417,000
Dec. 12th	17,998,000	10,195,000	28,193,000	22,727,000	8,172,000	30,899,000
1838.						
Jan. 9th	17,900,000	10,992,000	28,892,000	22,606,000	8,895,000	31,501,000
Feb. 6th	18,206,000	11,266,000	29,472,000	22,569,000	9,543,000	32,112,000
March 6th	18,600,000	11,535,000	30,135,000	22,792,000	10,015,000	32,807,000
April 3rd	18,987,000	11,262,000	30,249,000	22,838,000	10,126,000	32,964,000
May 1st	19,084,000	11,006,000	30,090,000	22,768,000	10,002,000	32,770,000
May 29th	19,018,000	10,786,000	29,804,000	22,648,000	9,806,000	32,454,000
June 26th	19,047,000	10,426,000	29,473,000	22,354,000	9,722,000	32,076,000
July 24th	19,286,000	10,424,000	29,710,000	22,601,000	9,749,000	32,350,000
Aug. 21st	19,481,000	10,298,000	29,779,000	22,747,000	9,746,000	32,493,000
Sept. 18th	19,665,000	10,040,000	29,705,000	22,846,000	9,615,000	32,461,000
Oct. 16th	19,359,000	9,327,000	28,686,000	22,015,000	9,437,000	31,452,000

III.—*Trade.*

Value of the Produce and Manufactures of the United Kingdom, Exported from Great Britain to Foreign Parts, calculated at the Official Rates of Valuation, for the Years ending the 5th January:—

	1836.	1837.	1838.
Alum	2,548	7,049	5,818
Apparel, Slops and Negro Clothing	494,861	604,863	533,301
Arms and Ammunition .	454,017	470,131	324,983
Bacon and Hams. . .	34,187	42,198	36,329
Beef and Pork, salted .	82,394	78,472	68,810
Beer and Ale	71,233	87,048	91,789
Books, Printed . . .	28,919	34,439	29,686
Brass and Copper Manufactures	1,277,834	1,080,547	1,320,955
Bread and Biscuit . .	4,551	6,318	6,815
Butter and Cheese . .	76,943	72,334	62,690
Cabinet and Upholstery Wares	51,003	75,511	67,357
Coals and Culm . . .	679,613	855,751	1,051,061
Cordage	57,307	58,958	47,658
Corn, Grain, Meal, and Flour	10,819	12,728	13,443
Cotton Manufactures. .	44,849,038	50,646,912	41,900,110
——— Yarn	7,399,851	7,844,819	9,211,732

	1836.	1837.	1838.
Cows and Oxen . . .	796	1,239	2,783
Earthenware of all sorts .	119,127	161,821	125,637
Fish of all sorts . . .	220,591	202,271	185,332
Glass of all sorts . . .	169,868	161,338	162,868
Haberdashery & Millinery	53,982	66,821	42,264
Hardwares and Cutlery .	1,152,811	1,192,672	773,323
Hats, Beaver and Felt .	109,768	124,551	83,822
—— of all other sorts .	41,609	62,147	68,993
Hops	34,271	20,251	12,421
Horses.	26,497	22,485	15,308
Iron and Steel, Wrought and Unwrought . . .	2,955,967	2,842,792	2,744,069
Lard	11,410	21,782	11,300
Lead and Shot . . .	119,632	103,588	82,802
Leather, Wrought and Unwrought	147,210	169,668	136,518
——— Saddlery and Harness	73,348	93,388	87,037
Linen Manufactures . .	4,285,385	4,469,530	3,213,345
——— Yarn	139,920	241,658	389,997
Machinery and Mill-work	307,316	300,852	493,298
Mathematical and Optical Instruments . . .	25,004	25,030	27,259
Mules	1,640	4,590	4,790
Musical Instruments . .	60,810	76,120	71,618
Oil, Train, of Greenland Fishery	32,658	3,697	3,617
Painters' Colours. . .	169,861	210,811	151,307
Plate, Plated Ware, Jewellery and Watches.	218,046	319,492	247,196
Potatoes	8,317	5,210	8,007
Salt	274,804	318,063	328,178
Saltpetre, British refined	46,037	30,528	44,901
Seeds of all sorts . .	9,776	9,659	9,942
Silk Manufactures . .	792,087	767,986	432,123
Soap and Candles . .	390,137	413,648	358,074
Spirits	8,624	12,917	4,463
Stationery of all sorts .	257,877	297,945	197,489
Sugar, refined . . .	993,503	735,816	683,939
Tin, Unwrought . . .	28,343	40,705	62,999
—— and Pewter Wares and Tin Plates . . .	380,010	385,549	369,706
Tobacco (Manufactured) and Snuff	1,649	1,768	1,765
Tongues	1,128	1,800	1,841
Umbrellas and Parasols .	45,462	62,336	39,464
Whalebone	11,478	4,917	2,795
Wool, Sheep's . . .	165,755	137,180	94,567
—— of other sorts . .	25,052	20,102	5,286
Woollen & Worsted Yarn	126,751	136,721	140,374
——— Manufacture . .	7,399,657	7,535,064	4,680,247
All other articles . . .	913,524	1,088,690	936,606
Total Official Value of the Produce and Manufactures of the United Kingdom Exported from Great Britain to Foreign Parts	77,932,616	84,883,276	72,312,207

An Account of the IMPORTS of the principal Articles of Foreign and Colonial Merchandise, of the Consumption of such Articles, and of the CUSTOMS DUTIES received thereon, in the Year ended 5th January, 1838:—

	Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
			£.
Barilla and Alkali, cwt.	104,134	91,574	8,995
Bark for Tanners' or Dyers' use, cwt.	788,362	790,343	26,690
Butter, cwt.	282,798	266,059	266,101
Cheese, cwt.	237,729	232,255	121,660
Cocoa, lbs.	2,853,000	1,418,631	11,817
Coffee, of the British Possessions in America and Africa, lbs.	15,208,687	17,175,530	429,338
Of Mauritius, lbs.	68	68	2
East India, viz.			
From Brit. Possessions, lbs.	9,915,709	9,214,793	270,116
— Foreign Possessions, lbs.	30,548	702	37
Other Sorts, lbs	11,246,018	2,973	186
Total of Coffee	36,401,030	26,394,066	699,679
Corn:			
Wheat, qrs.	455,828	232,993	303,179
Barley, qrs.	87,802	47,476	21,267
Oats, qrs.	415,721	333,930	167,580
Rye, qrs.	30,710	19,574	8,483
Pease, qrs.	111,289	87,614	40,865
Beans, qrs.	106,448	109,002	45,990
Maize, or Indian Corn, qrs.	4,025	762	359
Buckwheat, qrs.	470	297	136
Wheatmeal or Flour, cwt.	361,980	40,186	3,680
Oatmeal, cwt.	3,865	142	41
Rye Meal, cwt.	322	,,	,,
Indian Meal, cwt.	528	3	,,
Dyes and Dyeing Stuffs: viz.			
Cochineal, lbs.	492,324	154,960	3,839
Indigo, lbs.	6,545,871	2,240,451	29,950
Lac-dye, lbs.	1,011,674	427,890	1,146
Logwood, tons	14,677	12,342	2,552
Madder, cwts.	84,899	79,228	8,081
Madder Root, cwts.	109,251	101,293	2,534
Shumac, cwts.	120,046	123,271	309
Eggs, number	74,745,589	74,790,078	25,991
Flax, and Tow or Codilla of Hemp and Flax, cwts.	1,002,256	1,002,408	4,259
Fruits:			
Currants, cwts.	211,415	175,032	193,995
Figs, cwts.	23,161	18,814	14,125

	Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
			£.
Lemons and Oranges { chests or boxes	349,122	313,639	} 62,745
Lemons and Oranges { number (loose)	30,547	30,547	
Lemons and Oranges { at value . .	£126	£2,201	
Raisins, cwts.	169,396	152,634	114,322
Gloves, Leather, pairs . . .	1,251,300	1,221,350	22,923
Hemp, undressed, cwts. . .	772,315	667,017	2,780
Hides, untanned, cwts. . .	347,057	301,890	36,647
Mahogany, tons . . .	28,639	22,967	48,914
Melasses, cwts.	582,268	592,574	266,640
Metals: viz.			
Copper Ore, cwts. . . .	404,108	66	40
— Unwrought . . .	4,446	2	1
Iron, in bars or unwrought, tons	19,059	13,470	20,065
Steel, unwrought, cwts. . .	5,817	25	6
Lead, Pig, tons	1,816	98	198
Spelter, cwts.	94,254	53,946	5,495
Tin, cwts.	29,101	2	6
Oil: viz.			
Train, Blubber, and Spermaceti, tuns	21,823	21,286	14,373
Palm, cwts.	223,329	214,000	13,376
Cocoa-Nut, cwts. . . .	41,218	28,836	1,802
Olive, gallons	1,720,397	1,499,122	35,092
Opium, lbs.	79,651	37,616	1,881
Quicksilver, lbs.	1,978,119	314,036	1,308
Rice, cwts.	384,111	126,739	6,435
Rice in the Husk, bushels . .	340,276	289,237	34,995
Saltpetre and Cubic Nitre, cwts.	349,993	256,969	6,424
Seeds: viz.			
Clover, cwts.	103,314	124,967	124,652
Flaxseed and Linseed, bushls.	3,313,501	3,394,774	21,266
Rape, bushels	1,025,996	957,526	5,988
Silk, viz.:			
Raw, lbs.	4,075,352	3,730,423	15,543
Waste, Knubs, and Husks, lbs.	943,281	875,782	391
Thrown, of all sorts, lbs. .	229,958	213,367	34,752
Silk Manufactures of Europe: viz.			
Silk or Satin, plain, lbs. .	80,735	77,049	42,379
— figured or brocaded, lbs.	40,215	37,719	32,272
Gauze, plain, lbs. . . .	1,225	1,154	981
— striped, figured or brocaded, lbs.	22,063	21,949	30,180
— tissue, foulards, lbs. .	8,164	8,165	7,480
Crape, plain, lbs.	4,696	4,607	3,686
— figured, lbs. . . .	10	0	,,
Velvet, plain, lbs. . . .	16,798	15,833	17,412
— figured, lbs. . . .	1,773	1,307	1,798
Other sorts	..	..	32,268
Silk Manufactures of India: viz.			
Bandannoes and other Silk			

	Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
			£.
Handkerchiefs, pieces .	560,398	134,714	21,227
Other sorts	..	..	2,908
Skins: viz.			
Goat, undressed, number .	554,616	433,486	903
Kid, undressed, number . .	282,491	217,058	36
— dressed, number . .	792,464	720,200	3,632
Lamb, undressed, number .	1,647,570	1,673,172	282
— tanned, tawed or dressed, number	13,462	14,212	71
Spices: viz.			
Cassia Lignea, lbs. . . .	984,674	105,485	2,642
Cinnamon, lbs.	1,037,041	14,956	379
Cloves, lbs.	135,602	87,131	2,178
Mace, lbs.	38,128	18,481	2,311
Nutmegs, lbs.	317,284	134,115	16,948
Pepper, lbs.	5,291,979	2,626,298	65,661
Pimento, lbs.	2,113,288	335,653	4,196
Spirits: viz.			
Rum, galls. (incl. over-proof)	4,612,416	3,184,599	1,433,078
Brandy, galls. (ditto) . .	2,088,452	1,209,055	1,360,108
Geneva, galls. (ditto) . .	290,862	18,151	20,427
Sugar, unrefined: viz.			
Of British Possessions in America, cwts. . . .	3,304,092	3,562,703	4,275,207
Of Mauritius, cwts. . . .	537,054	522,348	626,131
East India, of British Possessions, cwts.	296,677	270,146	368,072
East India, of Foreign Possessions, cwts. . . .	77,090	3	12
Other sorts, cwts. . . .	266,599	37	95
Total of Sugar . .	4 481,474	4,355,240	5,270,117
Tallow, cwts.	1,308,734	1,294,009	204,377
Tar, lasts	11,480	11,686	8,775
Tea, lbs.	36,765,735	31,872,516	3,319,665
Timber: viz.			
Battens and Batten Ends, C.	15,997	14,505	135,214
Deals and Deal Ends from British America, C. . . .	41,434	39,457	56,506
Deals and Deal Ends from other parts, C.	30,947	27,478	529,048
Staves, C.	85,716	85,074	51,823
Timber 8 ins. sq. & upwards, from British America, loads.	543,702	545,404	260,757
From other parts, loads . .	114,191	117,473	323,028
Tobacco:			
Unmanufactured, lbs. . .	27,070,448	22,504,343	3,375,125
Manufactured, and Snuff, lbs.	642,287	145,045	65,220
Turpentine:			
Common, cwt.	415,023	405,772	87,918

	Quantities Imported.	Quantities entered for Home Consumption.	Gross Amount of Duty received.
			£.
Wine: viz.			
Cape, gallons	619,371	500,966	68,887
French, gallons	730,167	462,318	127,014
Other Sorts, gallons . . .	6,627,701	5,599,898	1,539,066
Total of Wine . .	7,977,239	6,563,182	1,734,967
Wool, Cotton: viz.			
Of the British Possessions in America, lbs.	1,232,601	1,041,434	155
Of the British Possessions in the East Indies, lbs. . .	51,597,490	34,060,055	5,068
From the United States of America, lbs.	320,651,718	309,027,306	402,372
From Brazil, lbs	20,940,145	20,822,509	27,113
From Egypt, lbs. . . .	7,273,411	7,465,774	9,721
Otherwise imported, lbs. .	5,573,587	5,602,602	7,289
Total of Cotton Wool	407,268,952	378,019,680	451,718
Wool, Sheep and Lambs', lbs.	48,365,121	43,148,297	118,519
Other Articles	..	..	678,724
			£22,688,806

SHIPPING employed in the TRADE of the United Kingdom in the Year 1837, exhibiting the Number and Tonnage of Vessels that entered Inwards and cleared Outwards (including their repeated voyages), with the Number of their Crews, separating British and Foreign Vessels, and comparing the same with the Years 1835 and 1836:—

INWARDS.

	British and Irish Vessels.			Foreign Vessels.			Total.		
	Ships.	Tons.	Men.	Ships.	Tons.	Men.	Ships.	Tons.	Men.
1835	14,295	2,442,734	133,688	6,005	866,990	47,132	20,300	3,309,724	180,820
1836	14,347	2,505,473	137,589	7,131	988,899	53,921	21,478	3,494,372	191,510
1837	15,155	2,617,166	146,319	7,343	1,005,940	56,778	22,498	3,623,106	203,097

OUTWARDS.

1835	13,948	2,419,941	136,537	6,047	905,270	47,927	19,995	3,325,211	184,464
1836	14,207	2,531,577	144,295	7,048	1,035,120	56,069	21,255	3,566,697	200,364
1837	14,567	2,547,227	148,632	7,461	1,036,738	57,971	22,028	3,583,965	206,603

The number of vessels which passed the Sound in 1836 was 11,916, of which 3,188 were British. The number passing the Sound in 1837 was 13,102, and 3,417 belonged to British ports.

The trade of the United Kingdom to the Baltic in 1837 employed 1,720 vessels, of the aggregate burthen of 330,277 registered tonnage, and navigated by 15,172 men and boys. Out of the above number of vessels, 986 went in ballast; 193 with a general cargo; 337 with coal; 50 with salt; 32 with herrings; and 24 with lead, horses, &c.

The number of vessels employed in the Coasting Trade, which entered the several ports of the United Kingdom in 1837, was 128,011; tonnage,

10,409,370. Cleared outwards, 138,790 vessels; tonnage, 10,901,187. The number of vessels employed in the intercourse between Great Britain and Ireland, which entered inwards, was 10,299; tonnage, 1,202,104. Cleared outwards, 16,347; tonnage, 1,585,624.

An Account of the Number of Ships, with the Amount of their Tonnage, which entered the undermentioned Ports in the year ending 5th January, 1838:—

	British.		Foreign.	
	Ships.	Tons.	Ships.	Tons.
London	4,079	821,788	1,547	240,135
Liverpool	1,940	484,253	987	313,534
Bristol	351	71,060	40	7,387
Hull	998	210,989	901	89,665
Newcastle	921	140,704	688	76,404
Plymouth	270	24,606	29	3,534
Leith	263	42,609	202	17,324
Glasgow	135	19,790	18	4,359
Greenock	219	57,283	26	8,771
Cork	150	28,888	33	4,798
Belfast	131	29,482	34	3,495
Dublin	216	35,846	26	4,063

An Account of the Number of Vessels, with the Amount of their Tonnage, that were Built and Registered in the several Ports of the British Empire in 1837; also, of the Number of Vessels, with the Amount of their Tonnage, and the Number of Men and Boys severally employed in navigating the same, that belonged to the several Ports of the British Empire in the same year:—

	Vessels Built.		Vessels Registered.		
	Vessels.	Tonnage.	Vessels.	Tonnage.	Men.
England	733	105,318	14,998	1,821,994	105,075
Scotland	165	22,562	3,244	334,870	24,292
Ireland	38	3,291	1,694	139,363	9,865
Guernsey	12	748	90	9,280	678
Jersey	15	1,632	245	21,107	2,165
Man	42	2,371	265	6,907	1,387
British Plantations	388	58,825	5,501	457,497	30,044
Total	1,393	194,747	26,037	2,791,018	173,506

Quantity, Estimated Tonnage, and Estimated Value of the Exports of Ireland, exclusive of Coasting Trade, in the Years 1825 and 1835:—

Commodities.		Quantity. 1825.	Quantity. 1835.	Estimated Value. 1835.
Cows and Oxen	No.	63,524	98,150	£793,837
Horses	Do.	3,140	4,655	65,453
Sheep	Do.	72,191	125,452	199,986
Swine	Do.	65,919	376,191	893,839
Grain, *viz.* Wheat	Qrs.	283,340	420,522	812,441
„ Barley	Do.	154,822	168,946	210,756
„ Oats	Do.	1,503,204	1,575,984	1,661,953
„ Other Grain	Do.	23,832	39,637	75,149

Exports of Ireland—*continued.*		Quantity. 1825.	Quantity. 1835.	Estimated Value. 1835.
Wheat meal, Flour, and Oat-meal	Cwts.	599,124	1,984,480	£1,441,966
Potatoes	Do.	..	223,398	17,537
Provisions: Bacon and Hams	Do.	362,278	379,111	882,158
„ Beef and Pork	Do.	604,253	370,172	723,935
„ Butter	Do.	474,161	827,009	3,316,306
„ Lard	Do.	35,261	70,267	182,013
Soap and Candles	Do.	42	..	..
Eggs	No.	..	52,244,800	87,352
	Crates.	..	2,275	37,660
	Boxes	..	10,695	31,027
Feathers	Cwts.	..	6,432	32,636
Hides and Calf Skins	No.	..	57,657	45,831
Wool, Sheep and Lambs'	Bales.	..	33	1,240
	lbs.	..	764,184	17,322
Flax and Tow	Cwts.	54,898	163,949	402,773
Lead and Copper Ore	Do.	..	477,660	179,388
Spirits	Gallons.	629,529	459,473	75,505
Beer	Do.	..	2,686,688	138,981
Cotton Manufactures	Yards.	10,567,458	1,039,088	15,253
	Packages.	..	6,583	131,660
Cotton Yarn	lbs.	..	13,428	1,220
Linen	Yards.	55,114,515	70,209,572	3,725,054
	Boxes.	..	134	5,240
	Bales.	..	7	560
Silk manufactures	Yards.	..	8,400	21,740
Woollen Manufactures	Do.	..	100,320	40,128
Other Articles	Value.	..	..	369,294
Foreign and Colonial Merchandise	Do.	..	..	110,489

Estimated value of the above in 1825, £9,243,210; Ditto in 1835, £16,693,685, increase £7,450,475. Estimated tonnage in 1825, 510,245 tons; in 1835, 734,068 tons, increase 223,823 tons.

Statement of the Declared Value of British and Irish Produce and Manufactures Exported from the United Kingdom, specifying the various Countries to which the same were Exported in the Years 1836 and 1837:—

	1836.	1837.
Russia	£1,742,433	£2,046,592
Sweden	113,308	101,121
Norway	79,469	72,413
Denmark	91,302	103,448
Prussia	160,722	131,536
Germany	4,463,729	4,898,016
Holland	2,509,622	3,040,029
Belgium	839,276	804,917
France	1,591,381	1,643,204
Portugal Proper	1,085,934	1,079,815
Azores	53,574	56,405
Madeira	52,168	46,044
Spain and Balearic Islands	437,076	286,636
Canaries	40,370	41,904
Gibraltar	756,411	906,155

British and Irish Produce *continued.*	1836.	1837.
Italy and Italian Islands	£2,921,466	£2,406,066
Malta	143,015	103,680
Ionian Islands	109,123	124,465
Morea and Greek Islands	12,003	15,431
Turkey	1,775,034	1,158,031
Syria and Palestine	33,650	5,413
Egypt	216,930	220,080
Tripoli, Tunis, Algiers, and Morocco	297,322	54,007
Western Coast of Africa	467,186	312,938
Cape of Good Hope	482,315	488,814
Cape Verd Islands	413	751
St. Helena	11,041	9,645
Isle of Bourbon	..	3,795
Mauritius	260,855	349,488
Arabia	16,358	787
East India Company's Territories and Ceylon	4,285,829	3,612,975
Sumatra, Java, and Islands in the Indian Seas	234,852	313,791
Phillipine Islands	51,778	33,808
China	1,326,388	678,375
New South Wales and Van Diemen's Land	835,637	921,568
British North America	2,732,291	2,141,035
British West Indies	3,786,453	3,456,745
Hayti	251,663	171,050
Cuba and Foreign West Indies	987,122	891,713
United States of America	12,425,605	4,695,225
Mexico	254,822	520,200
Guatimala	764	78
Columbia	185,172	170,451
Brazil	3,030,532	1,824,082
Rio	697,334	696,104
Chili	861,903	625,545
Peru	606,332	476,374
Guernsey	318,609	330,017
Total	£53,368,572	£42,070,744

Declared Value of British and Irish Produce and Manufactures Exported to all parts of Germany in the four Years preceding and subsequent to the commencement of the Prussian Commercial League:—

	£.		£.
1830	4,641,528	1834*	4,683,589
1831	3,835,768	1835	4,791,239
1832	5,327,553	1836	4,624,451
1833	4,499,727	1837	5,029,552
Average	4,576,144	Average	4,782,207

* Commencement of German League on 1st January.

Gross Amount of Customs' Duty received at the principal Ports of the United Kingdom during the Years ended 5th January, 1837 and 1838:—

	1836.	1837.
London	£12,156,279	£11,188,036
Bristol	1,112,812	1,154,817
Dover	47,437	39,101
Exeter	79,897	82,893
Gloucester	166,187	132,879
Goole	60,317	77,033
Hull	801,628	741,600
Lancaster	42,313	40,031
Liverpool	4,450,426	4,351,496
Lynn	52,470	59,518
Newcastle	307,274	413,796
Plymouth	103,423	105,495
Portsmouth	46,873	47,259
Southampton	49,139	45,427
Stockton	54,497	61,515
Sunderland	78,126	86,912
Whitehaven	88,291	100,628
Yarmouth	63,783	66,159
Aberdeen	58,673	65,330
Dundee	70,982	76,189
Glasgow	289,702	394,152
Grangemouth	25,728	30,267
Greenock	374,467	380,703
Port-Glasgow	104,292	94,161
Belfast	366,718	324,869
Cork	230,904	221,410
Dublin	898,630	859,758
Galway	31,769	28,641
Limerick	146,222	141,174
Londonderry	99,652	100,057
Newry	58,806	49,292
Sligo	35,863	32,120
Waterford	137,126	145,669

An Account of the Quantities of all Foreign Wines remaining in Bond on 5th Jan., 1836-7-8; distinguishing Cape, French, Portugal and Spanish from other Sorts, and London from the Country.

Quantities remaining in Warehouse under Bond:—

	Cape. Gallons.	French. Gallons.	Portugal. Gallons.	Spanish. Gallons.	All Sorts. Gallons.
1836.—At the Port of London	195,670	248,309	2,397,186	2,259,654	5,728,369
At the other Ports of the United Kingdom	247,148	101,141	1,819,718	1,439,585	4,047,771
Total	442,818	349,350	4,216,904	3,699,239	9,776,140
1837.—At the Port of London	245,628	298,176	2,902,735	2,260,002	6,256,304
At the other Ports of the United Kingdom	222,462	119,280	2,081,165	1,504,009	4,312,014
Total	468,090	417,456	4,983,900	3,764,011	10,568,318
1838.—At the Port of London	361,268	412,493	2,838,617	2,200,980	6,453,262
At the other Ports of the United Kingdom	235,599	158,005	1,997,766	1,517,776	4,274,185
Total	597,227	570,498	4,836,383	3,718,756	10,727,447

An Account of the Number of Proof Gallons (including over-proof) of Rum, Brandy, or other Foreign, Colonial, or Jersey Spirits, remaining in Bond on 5th January, 1836, 1837, and 1838; distinguishing London from the Country.

Quantities remaining in Warehouse under Bond:—

	Rum. Gallons.	Brandy. Gallons.	Total all sorts. Gallons.
At the Port of London	1,666,939	1,052,939	2,795,592
At the other Ports of the United Kingdom	1,918,447	764,255	2,794,442
Total on 5th January, 1836 .	3,585,386	1,817,194	5,590,034
At the Port of London	1,386,367	893,812	2,360,086
At the other Ports of the United Kingdom	1,715,406	733,749	2,528,455
Total on 5th January, 1837 .	3,101,773	1,627,561	4,888,541
At the Port of London	1,175,695	927,619	2,176,643
At the other Ports of the United Kingdom	1,397,932	754,577	2,219,143
Total on 5th January, 1838 .	2,573,627	1,682,196	4,395,786

Coals, Culm, and Cinders, sent Coastways in 1837—7,090,691 tons. From Newcastle 2,392,494 tons were sent to other parts of the United Kingdom; from Stockton 1,145,837 tons; Sunderland 932,135; Swansea 491,966; Newport 480,870; Whitehaven 409,493 tons.

The quantity Exported was 1,113,610 tons, including 6447 tons of cinders and 1143 of culm. The quantity exported to France in 1836 was 205,140 tons, and in 1837 amounted to 272,133 tons.

Quantity of Coal brought coastways and by inland navigation to the Port of London, in 1836, 2,399,551 tons; in 1837, 2,629,321 tons.

The Quantity of Iron manufactured in France in 1826 was 202,756 tons pig iron, and 143,336 tons of malleable iron; and in 1836 the quantity of the former was increased to 303,739, and of the latter to 201,691. Total in 1826, 346,092; in 1836, 505,430 tons. The importation of iron has not diminished; and in 1836 the value of foreign iron imported was greater than in any former year, being £252,702, on which a duty of £122,842 was charged. In 1817 the value of the iron imported was £202,205; in 1821, £226,571; in 1826, £218,212. These were years in which the quantity imported was largest.

The Quantity and Value of Coal annually raised in France have been more than trebled within the last twenty years. In 1836 there were raised 2,544,835 tons, of the value of £1,064,282; the quantity raised in 1816 having been 795,012 tons, value £335,533. The productiveness of the mines has not kept pace with the increasing demand for coal; and the quantity imported has been nearly doubled within the last ten years, having been 495,325 tons in 1826, and 949,373 tons in 1836.

In 1837 the Quantity of Ore produced from the Mines in Cornwall was 140,753 tons; copper 10,823 tons. Value of the Ore £908,613.

The Number of Acres under cultivation for the production of Hops was 56,323 in 1837. The Duty on Hops for the same Year amounted to 82,680*l.* in the Rochester collection; Sussex collection 80,873*l.*; Canterbury 60,692*l.*; Hereford 48,237*l.*; Worcester 10,204*l.*; Hants 846*l.*; and for all other hop districts to 19,644*l.*

The Number of Quarters of Malt made in England in 1837 was 4,211,544; Scotland 572,880; Ireland 284,418. Total 5,068,842.

Licences granted in England by the Excise in the year 1837:—Auctioneers, 3004; Tea and Coffee Dealers, 81,259; Glass Manufacturers, 131; Maltsters, 10,039; Paper-makers, 403; Soapmakers, 199; Manufacturers of Tobacco and Snuff, 282; Dealers in Tobacco and Snuff, 156,271; Dealers in Foreign Wine, 22,019; Brewers of Strong Beer, 46,980; Retail Brewers, (under 5 Geo. IV. c. 54,) 18; Sellers of Strong Beer, not being Brewers, 979; Beer Retailers, whose premises are rated under 20*l.* a-year, 39,926; Ditto, 20*l.* or upwards, 15,824; Retailers of Beer, Cider, or Perry, (under 1 Wm. IV. c. 64, and 4 and 5 Wm. IV. c. 85,) 45,193; of Cider and Perry only, 1585; Distillers and Rectifiers, 118; Dealers in Spirits, not being Retailers, 2968; Retailers of Spirits, 34,924; Ditto of Sweets, 1655; Passage Vessels licensed for sale of Liquors and Tobacco, 223; Persons licensed to let Post-horses, 9388.

The declared value of Bones of Cattle and other animals, and of Fish, (except Whales-fins,) whether burnt or not, or as Animal Charcoal, imported into the United Kingdom in 1835, was £155,279, and in 1836 £171,806. In the latter year the value of bones imported from Russia was £24,006; Sweden, £8643; Norway, £3550; Denmark, £23,658; Prussia, £25,856; Germany, £39,015; and Holland, £29,325.—The duty is charged *ad valorem*, and the quantity therefore is not required to be stated in the entries at the Custom-House.

The Amount of Drawback on Exportation of Glass in England in 1837 was £268,138; Scotland, £25,205; Ireland, £392. Total, £293,736; above one-half of which was for crown glass, the actual drawback on that description of glass being £177,529, and on bottle glass £71,864.

The Quantity of Soap manufactured in Great Britain during the Year 1837 was—

	Drawback. £.	Hard Soap. lbs.	Soft Soap. lbs.
England		130,765,468	8,839,833
Scotland		9,553,855	3,405,001
Total Great Britain		140,319,323	11,794,834
Exported to Ireland	63,163	10,040,747	98,018
Exported to Foreign Countries	61,552	11,119,515	13,274
Allowances to Manufacturers of—			
Woollens	38,923	5,440,236	6,217,874
Linens	310	42,819	11,693
Silks	10,943	1,247,505	862,945
Flax or Cotton	12,019	1,456,445	799,899
Total allowed to Manufacturers	£62,196	8,287,005	7,892,416

IV. *Law.*

THE Returns showing the State of Crime, &c. in Great Britain, usually given in this place, have been used in an article in Part III. on the Criminal Returns.

The Number of Appeals to the Quarter-Sessions against Convictions by Justices of the Peace in England and Wales in 1836 was 108, of which 38 were in Middlesex, (including 6 in the city of London, and 6 in Westminster,) 17 in Lancashire, and 10 in Surrey.

CRIME in NEW SOUTH WALES.—Population in 1828, 36,598; in 1833, 60,794; in 1836, 77,096: Persons committed for Trial, in 1833, 727; in 1836, 1082: proportion to Population in 1833, 1 in 82; in 1836, 1 in 72.

NUMBER of BANKRUPTCIES advertised in the *London Gazette* during each Year, from January, 1833, to 31st October, 1838; also Number of Declarations of Insolvency in each Year, from 1833 to 1837 inclusive, and the Number of Fiats of Bankruptcy issued and opened for the same period.

	1833.	1834.	1835.	1836.	1837.	1838.
January	101	92	99	74	97	81
February	109	83	104	88	141	97
March	94	98	108	101	152	84
April	80	89	66	77	148	71
May	94	81	93	62	184	98
June	63	89	112	62	147	89
July	86	96	93	58	112	59
August	83	73	66	69	110	65
September	57	73	68	70	76	49
October	69	101	66	56	90	46
November	88	115	75	113	103	..
December	96	117	92	111	114	..
	1020	1107	1042	941	1474	..
Fiats issued	1283	1279	1294	1207	1939	
Fiats opened	1039	1107	1037	963	1338	
Town Fiats issued	518	599	557	483	531	
Town Fiats opened	437	491	467	417	442	
Country Fiats issued	765	680	737	724	1408	
Country Fiats opened	602	616	570	546	896	
Declarations of Insolvency	102	156	181	117	159	

Total Number of Days in each Year during which the whole of the BARRISTERS appointed to revise the LISTS of VOTERS for the Counties, Cities, and Boroughs in England and Wales, were employed; Number of BARRISTERS appointed; Total COST of such REVISION.

Year 1836:—175 Barristers .. 3146 Days .. Total Cost £26,871 7 2
Year 1837:—172 Barristers .. 3654 Days .. Total Cost 31,080 18 9

V. *Miscellaneous.*

REGISTERED ELECTORS IN THE UNITED KINGDOM.—In the year 1834-5 the Number was as follows:—

	England.	Wales.	Scotland.	Ireland.	Total.
Counties	357,053	26,796	36,677	65,358	485,884
Boroughs	273,668	11,128	36,043	32,648	353,487
Total	630,721	37,924	72,720	98,006	839,371
Male Population in 1831. Total	6,376,627	394,563	1,114,816	3,794,880	11,680,886
Male Population in 1831. 20 years of age.	3,199,934	194,706	549,821	1,867,765	5,812,276
Per-centage proportion of electors to the male population 20 years of age.	19·71	19·47	12·86	5·24	14·44

In 1835-6 the number of electors registered, of which an account has been furnished to Parliament, was—

	England.	Wales.	Scotland.
Counties	435,350	31,898	41,885
Boroughs	301,966		
Total	737,316		
Exhibiting an increase of	78,297=21 per cent.	5,102=19 per cent.	5,208=14 per cent.
	28,052=10 ,,		
Total	106,349=16 per cent.		

The above statements do not include the Universities of Oxford and Cambridge, Trinity College Dublin, nor the Isle of Wight.

NUMBER of SLAVES in each COLONY; Total AMOUNT and AVERAGE RATES of Appraised VALUE; AVERAGE of SALES from 1822 to 1830; and Total AMOUNT and AVERAGE RATES of COMPENSATION.

COLONIES.	Number of Slaves.	Appraised Value by sworn Valuators. Total Amount.	Appraised Value by sworn Valuators. Average Rates.	Average of Sales of Slaves from 1822 to 1830.	Compensation Apportioned. Total Amount.	Compensation Apportioned. Average Rates.
		£.	£. s. d.	£. s. d.	£.	£. s. d.
Antigua	29,121	1,777,026	61 0 5¼	32 12 10¼	425,547	14 12 3
Bahamas	10,086	294,194	29 3 4	29 18 9¾	128,296	12 14 4¼
Barbadoes	83,150	4,428,510	53 5 2	47 1 3¼	1,719,980	20 13 8¼
Bermuda	4,026	175,194	43 10 3	27 4 11¾	50,409	12 10 5
Cape of Good Hope	35,742	3,040,829	85 1 6	73 9 11	1,235,996	34 11 7¾
Dominica	14,175	719,246	50 14 9¼	43 8 7¼	275,547	19 8 9¼
Grenada	23,638	1,791,325	75 15 7¼	59 6 0	616,255	26 1 4¼
Guiana, British	82,824	11,302,190	136 9 2¼	114 11 5¼	4,294,989	51 17 1¼
Honduras	1,901	236,219	124 5 2	120 4 7¼	101,399	53 6 9¼
Jamaica	311,070	15,501,047	49 16 7	44 15 2¼	6,149,937	19 15 4¼
Mauritius	66,613	5,321,717	79 17 9¼	69 14 3	2,099,983	31 10 6
Montserrat	6,401	408,486	63 16 3¾	36 17 10¾	103,556	16 3 6¾
Nevis	8,815	378,558	42 18 10¼	39 3 11¾	151,006	17 2 7¼
St. Christopher's	19,780	885,730	44 15 6¾	36 6 10¼	329 393	16 13 0¼
St. Lucia	13,291	798,120	60 0 11¾	56 18 7	334,495	25 3 4
St. Vincent's	22,266	1,602,467	71 19 4¼	58 6 8	590,779	26 10 7¾
Tobago	11,589	485,155	41 17 3	45 12 0¼	233,875	20 3 7¼
Trinidad	20,657	2,101,495	101 14 7¾	105 4 5¼	1,033,992	50 1 1¼
Virgin Islands	5,135	219,925	42 16 6¾	31 16 1¾	72,638	14 2 10¾
Total	770,280	51,467,436	66 16 3¾	56 9 1¾	10,948,080*	25 17 11¼

* To this amount must be added £51,920, for sums reserved to meet extraordinary claims and for fractional parts, and the whole will amount to £20,000,000.

Return of the Number of Newspapers to which Stamps were issued, and of the Number of Stamps issued to Newspapers, in the Years ending 15th September 1836 and 1837; distinguishing the Number issued to London Newspapers, to English Provincial Newspapers, and to Irish and Scots' Newspapers respectively, and showing the Total Number and Amount each Year; also, the Amount of Newspaper Stamp Duty received in each of the above Periods.

	Year ending 15 Sept. 1836.			Year ending 15 Sept. 1837.		
	No. Newspapers.	No. Stamps.	Duty.	No. Newspapers.	No. Stamps.	Duty.
			£.			£.
London Newspapers	71	19,241,640	256,556	85	29,172,797	121,553
English Provincial do.	194	8,535,396	113,804	237	14,996,113	62,483
Scotch do. . . .	54	2,654,438	35,392	65	4,123,330	17,180
Irish do.	78	5,144,582	37,525	71	5,203,967	16,263
	397	35,576,056	443,278	458	53,496,207	217,480

Postage.—An Account of the Amount of Postage collected at the undermentioned Cities and Towns of the United Kingdom during the year ending January, 1838:—

London	£697,567	Potteries and Newcastle	£7,203
Birmingham . . .	32,474	Preston	5,673
Bristol	35,711	Sheffield	12,929
Coventry	5,029	Edinburgh	42,704
Hull	16,089	Aberdeen	9,612
Leeds	23,343	Dundee	9,430
Leicester	7,075	Glasgow	43,029
Liverpool	90,747	Dublin	70,070
Manchester	69,232	Belfast	11,578
Macclesfield . . .	2,126	Cork	13,816
Norwich	10,199	Limerick	7,393
Nottingham . . .	9,456		

Marriages.—Number of Places in England and Wales Licensed for the celebration of Marriage under the Provisions of 6 and 7 Will. IV. cap. 85, 1136; Number of Certificates for Marriage Granted under the same Act, during the six Months from July to December, 1837, 2343; Number of Marriages celebrated other than according to the Rites of the Established Church during the same period, 1745: of which 453 were in the Superintendent Registrar's Office, and 1292 in Registered Places of Worship, or between Quakers or Jews; 220 were by Licence, and 1525 on production of Certificate. Number celebrated according to the Rites of the Established Church within the Bills of Mortality in the same period, 6032; of which 5108 were after Banns, and 911 by Licence.

Caledonian Canal.—Total Expenditure thereupon, from its commencement in October, 1803, to 1st of May, 1838, £1,018,808; Canal Dues received during the same period, £35,125; Estimate of Sum required to repair and perfect the Canal, £143,837.

The Estimated Expenditure of the British Museum for 1837 was 28,774*l.*; the Actual Expenditure 27,430*l.*; and the Estimated Charge from Lady-day, 1838, to Lady-day, 1839, is 29,494*l.*

Number of Visits made to the Reading Rooms, for the purpose of Study or Research, about 1950 in 1810; 63,466 in 1835; 62,360 in 1836; 69,936 in 1837. Artists and Students, to the Galleries of Sculpture, for the purpose of Study, 6081 in 1835; 7052 in 1836: 5570 in 1837. Number of Visits made to the Print Room, 1065 in 1835; 2916 in 1836; 4429 in 1837.

Number of Persons admitted to view the General Collections in 1832, 147,896; in 1833, 210,495; 1834, 237,366; 1835, 289,104; 1836, 383,147; 1837, 321,151. The number of persons in each month during the two latter years was as follows.

	1836.	1837.		1836.	1837.
January .	23,292	11,042	July . .	67,859	38,191
February .	21,738	13,769	August .	75,195	28,238
March. .	20,149	48,557	September.	348	18,866
April . .	21,573	21,007	October .	30,549	17,210
May . .	33,338	70,122	November.	13,413	9,974
June . .	66,229	27,044	December.	9,464	17,131

Number of Persons admitted to see the Armouries in the Tower, in 1837, 14,523, of whom 10,408 paid 2*s.* each. In the four weeks ending 28th March, 1838, when the fee was reduced to 1*s.*, the Admissions were 4528, of whom 4196 paid.

Statement relating to Yeomanry Cavalry in Great Britain.

	Corps.	Troops.	Privates.
The whole Force in December, 1837 . .	92	337	18,303
There were reduced in February, 1838. .	46	86	4,709
The whole Force remaining in 1838 . .	46	251	13,594

Government Grants in Aid of Education in each of the following years:—

	1834.	1835.	1836.	1837.	1838.	Total.
	£.	£.	£.	£.	£.	£.
Through the National Society. .	11,081	13,002	17,130	11,456	17,041	69,710
Through the British and Foreign Society	9,796	7,168	5,281	5,810	6,090	35,285

Church Building Materials.—The amount of all drawbacks allowed on building materials used in the erection of places of public worship in Great Britain, from April, 1817, to April, 1837, was £170,561, divided among 609 edifices, or, on an average, £280 to each.

Charges incurred by the United Kingdom on account of the Canadas, and of the other North American Colonies, 1834 to 1836.

Years.	THE CANADAS.							Actual Expenditure on account of other North American Colonies.	Grants to Religious Societies in all the Colonies.	Total Expenditure.
	Payments on account of the					Repayments.	Actual Expenditure.			
	Army.	Navy.	Ordnance.	Commissariat, &c.	Total.					
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
1834	75,110	7,856	36,826	117,403	237,195	36,407	220,788	154,004	4,000	378,792
1835	71,355	2,853	51,930	89,381	215,579	48,918	166,661	153,146	3,850	323,657
1836	107,246	1,106	53,451	160,650	322,453	63,073	259,380	157,875	3,850	421,105

Provincial Revenues of Upper and Lower Canada, 1832 to 1836.

Provinces.	1832	1833	1834	1835	1836
	£.	£.	£.	£.	£.
Upper Canada .	53,145	66,024	74,882	61,161	69,141
Lower Canada .	153,467	137,342	91,761	122,066	102,027
Total . . .	206,612	203,366	166,643	183,227	171,168

Trade of the United Kingdom with the Canadas, 1834 to 1836.

Years.	Official Value of Imports from the Canadas.	Official Value of Exports to the Canadas.			Declared Value of British Exports to the Canadas.
		British.	Foreign and Colonial.	Total.	
	£.	£.	£.	£.	£.
1834	613,598	1,171,540	168,085	1,339,625	799,912
1835	629,051	1,842,176	285,355	2,127,531	1,184,985
1836	633,575	2,388,861	350,646	2,739,507	1,539,153

XXI.—CHRONICLE OF THE SESSION OF PARLIAMENT.

[1 and 2 Victoria, 1837 and 1838.]

Nov. 15. 1837. Parliament was opened by Commission. The Commission stated that, as soon as the preliminary business consequent on the assembling of a new Parliament was disposed of, Her Majesty would open the business of the session personally. In the Commons, Mr. Abercrombie was re-elected Speaker, without opposition. The only other business transacted in either House was the administration of the necessary oaths to the Members.

Nov. 20. The Queen came in state to open the Session of Parliament. The Speech from the Throne pointed out several subjects requiring serious and prompt attention. Owing to the demise of the Crown a new provision was necessary for the Civil List; the disturbed state of the province of Lower Canada required immediate consideration; the municipal government of the cities and towns in Ireland required better regulation; and the laws relating to the collection of tithes, and the state of the poor, in the same country, were also pressed on the attention of the Legislature. In conclusion, the Queen said, "In meeting this Parliament, the first that has been elected under my authority, I am anxious to declare my confidence in your loyalty and wisdom. The early age at which I am called to the sovereignty of this kingdom renders it a more imperative duty that, under Divine Providence, I should place my reliance upon your cordial co-operation, and upon the love and affection of all my people."

(Lords.) The address was moved by his Royal Highness the Duke of Sussex, and seconded by Lord Portman. The Duke of Wellington congratulated the House on the prospect of unanimity, and promised to give his assistance in considering the subjects recommended to the attention of the Legislature.

(Commons.) An amendment was moved on the address, proposing an early consideration of "an equitable extension of the elective franchise." Lord John Russell opposed the amendment, and it was lost by 509 to 20. Other amendments were put and negatived without a division. On the following night a somewhat warm debate occurred, during which Lord John Russell repelled insinuations that he was about to desert the party with whom he had hitherto acted.

Nov. 23. (Commons.) On the motion of the Chancellor of the Exchequer, the passage in the Queen's Speech relative to the Civil List was read. After giving a brief history of the arrangements of the Civil List, and presenting comparative statements of the households of Queen Anne and the present Queen, he moved that the settlement of the Civil List be referred to a Select Committee. Mr. Harvey moved an amendment, that a Select Committee be appointed to inquire into the Pension List; but withdrew it, on the assurance that an inquiry was to be instituted into the origin of all existing crown pensions. The Civil List Committee was appointed.

Nov. 27. (Lords.) The Earl of Roden directed the attention of the House to the passage in the Queen's Speech which spoke of the "internal peace and tranquillity" of the country; and contended that the state of Ireland did not justify the expression. The Earl of Mulgrave (now the Marquis of Normanby), Lord Lieutenant of Ireland, being in the House, made a long reply, proving, from various statistical facts, that the state of Ireland under his government was much improved from what it had been in former periods; and Lord Melbourne contended that the state of the empire at large fully justified the expression in the Speech.

(Commons.) A debate arose on the motion for the second reading of a Bill introduced by Mr. Charles Buller, to "amend the law relating to the trial of controverted elections, or returns of Members to sit in Parliament." On a division it was carried by 214 to 160.

Nov. 30. (Commons.) Conversation on a motion made by Mr. Slaney, for a "Select Committee to consider the best means of providing useful education for the children of the poorer classes in large towns throughout England and Wales." Some strong statements were made as to the lamentable ignorance of certain classes of the population. The motion was agreed to.

Dec. 1. (Lords.) The same subject introduced by Lord Brougham, who, in bringing forward two Bills for the promotion of education, made a very long and interesting speech.

Dec. 5. (Lords.) The Lord Chancellor moved the second reading of the Bill to abolish imprisonment for debt. (See the abstract of the Act at p. 167.) Lord Lyndhurst gave a brief history of the several attempts that had been made to legislate on the subject; and then made a great number of objections to the provisions of the present Bill. He was answered in a long speech by Lord Brougham, who defended the Bill generally, but admitted that some of Lord Lyndhurst's objections were well founded.

(Commons.) A motion made by Sir F. Pollock for compensation to Lord Canterbury, formerly Speaker of the House of Commons, for loss arising from the burning of the Houses of Parliament. It was resisted on the ground that he ought to have insured his property, and lost by 173 to 163.

Dec. 6. (Commons.) A debate arose, during which there was much personal altercation and disturbance, on the subject of raising public subscriptions to defray the expenses of controverting the elections of Members of the House of Commons. The debate on the subject was carried over into the following night; but, previous to its being resumed, the Speaker admonished the House respecting the disorderly conduct of the previous evening, and intimated that he would resign the Chair if such scenes were repeated.

Dec. 8. (Commons.) The Chancellor of the Exchequer moved for a Select Committee to inquire into the Pension List. Sir Robert Peel submitted an amendment, the object of which was

to prevent the proposed inquiry. After a debate, during which Mr. Harvey delivered an effective speech in reply to Sir Robert Peel, the motion for a Committee was carried by 295 to 233.

Dec. 11. (Lords.) A message was brought from the Queen, recommending an increased provision for her mother, the Duchess of Kent. A similar message was presented to the House of Commons, on the same night; and in both Houses the subject was resumed on the following night, and in the House of Commons a resolution was passed, on which a Bill was founded, authorising the raising of the Duchess of Kent's annual income from 22,000*l.* to 30,000*l.*

Dec. 15. (Lords.) A petition, signed by all the principal booksellers of London, in favour of a large reduction of postage duties, was presented by Earl Radnor, the prayer of the petition being supported by Lord Brougham. The subject of a general reduction of postage was introduced in the House of Commons, on the same evening, when Sir Robert Peel expressed an opinion that the experiment might be tried.

Dec. 21. (Lords.) The Civil List Bill was finally "committed," after having passed the Commons, and gone through the usual forms in the Lords. (See the abstract of the Act at p. 142.)

Dec. 22. (Commons.) Considerable excitement and debate were created by the announcement of the intelligence, that an insurrection had broken out in Lower Canada. (See Chronicle of Occurrences.) In consequence of the intelligence, it was announced by Lord John Russell, that Parliament, instead of being prorogued till the 1st of February, 1838, should only be prorogued till the 16th of January.

Dec. 23. (Lords.) The Queen went in state, to return thanks for the settlement of the Civil List, and to prorogue Parliament.

[Christmas Recess.]

Jan. 16. (Commons.) Parliament having re-assembled, Lord John Russell, in moving an address to the Crown, relative to the disturbances in Lower Canada, entered into a long statement respecting the grievances of the Canadians, and the measures proposed to be adopted by the Government for settling the disturbances. The address, after a debate, was agreed to.

Jan. 18. (Lords.) The same subject was taken up in the House of Lords. Lord Glenelg, in moving the address to the Queen, stated the general provisions of a Bill which had been introduced into the Lower House, for settling the affairs of Canada. Lord Brougham, in a long speech, assailed the Ministerial Colonial policy. The Earl of Durham, being present in the House, and having been repeatedly alluded to during the debate (he having accepted the situation of Governor-General of the British North American Colonies), rose and stated the principles which would guide him in the discharge of his arduous duties.

Jan. 22. (Commons.) J. A. Roebuck, Esq., was heard at the Bar, as Counsel for the Legislative Assembly of Lower Canada, against the passing of the Canadian Bill. He entered into a history of the origin of the Canadian grievances, and the disturbances to which they led, and maintained that the Bill was unjust and unnecessary. A debate afterwards followed, which was resumed on the following night; when a division took place on the motion for going into Committee on the Bill, when it was carried by 262 to 16. (See the abstract of the Act at p. 144.)

(Commons.) Lord John Russell announced that Ministers in-
Jan. tended to adopt certain amendments proposed by Sir Robert
26. Peel, by striking out of the preamble of the Canadian Bill words recognising the assembling of a representative council of advice to assist Earl Durham; and also a clause empowering the Queen in council to repeal the Act at pleasure. Lord Stanley, seconded by Sir William Follett, proposed a clause, prohibiting the repeal of any Act of the British Parliament by the Governor-General and his Council. This also was adopted.

(Lords.) Lord Brougham, in presenting a petition from
Jan. Leeds, praying for the immediate abolition of slavery in the
29. West Indies, made a speech containing many painful statements respecting the atrocities still committed by parties engaged in the slave-trade.

(Lords.) Mr. Roebuck, having petitioned to be heard at the
Feb. Bar on behalf of the Legislative Assembly of Lower Canada, in
5. like manner as he had been heard at the Bar of the House of Commons, was, on the motion of Lord Brougham, called in, and addressed the House.

(Commons.) Lord John Russell moved that the Bill for making a legislative provision for the poor of Ireland be read a second time. After some debate, it was read accordingly.

(Commons.) Leave was given to the Chancellor of the Ex-
Feb. chequer to bring in a Bill to amend the law which prohibited
6. clergymen from becoming members of joint stock companies.

(Commons.) Mr. O'Connell made a long speech in support
Feb. of a motion, that the committal of the Irish Poor Law Bill be
9. put off for six months; in other words, to throw out the Bill. He argued that the Bill was inadequate and impolitic. Lord John Russell defended the Bill; and, on a division, Mr. O'Connell's motion was rejected by 277 to 25.

(Commons.) Mr. Wakley presented several petitions, pray-
Feb. ing for inquiry into the case of the Glasgow cotton-spinners,
13. convicted at Edinburgh. (See Chronicle of Occurrences.) He then moved for a Committee of Inquiry, which led to an interesting conversation on the subject of combination. The Chancellor of the Exchequer said it was the duty of Government to take the inquiry into its hands; and accordingly moved, as an amendment, that a Select Committee be appointed to inquire into combinat ons generally, and the constitution, proceedings, and extent of trades' unions. Mr. Wakley withdrew his motion, and the amendment was carried.

(Lords.) The same subject was taken up, on the presenta-
Feb. tion of a petition by Lord Brougham. The Duke of Wellington
15. expressed his satisfaction at the appointment of a Committee of the House of Commons, as he considered that the combination of workmen produced terrible evils.

(Commons.) Mr. Grote moved that leave be given to bring in a Bill "for taking the votes of parliamentary electors by way of ballot." He prefaced his motion by a long speech, pointing out the evils arising from intimidation at elections, and the necessity of protection to the electors. Mr. Ward seconded the motion. Lord John Russell resisted the motion, on the ground that the introduction of the ballot would only serve as a preliminary to other and more extensive changes; and Sir Robert Peel contended that the experience of France, of the United States, and of antiquity, went to prove that secret voting was either inadequate or mischievous. The debate, which was animated and interesting, was closed

by a division, when there appeared for the motion 198, against it 315—majority 117.

Feb. 20. (Lords.) A speech of great and impressive eloquence was made by Lord Brougham on introducing two series of resolutions—one series having reference to the taking of more effective measures for the suppression of the slave-trade; the other, relating to the condition of the negro apprentices in our West India colonies. The Duke of Wellington confirmed Lord Brougham's account of the horrors of the slave-trade. Lord Glenelg entered into a long detail of the treaties concluded with foreign powers for the suppression of the slave-trade; and pledged himself that no exertion should be wanting to induce those nations, under whose flag the slave-trade was still carried on, to put a stop to it. He promised, also, to bring in a Bill for the more effectual protection of the West India negro apprentices.

(Commons.) A great number of petitions was presented, praying for the repeal of the English Poor Law Amendment Act. Mr. Fielden then moved for leave to bring in a Bill for that purpose, which was rejected by 309 to 17.

Feb. 26. (Commons.) Lord Maidstone called the attention of the House to certain expressions contained in a speech made by Mr. O'Connell, at the Crown and Anchor Tavern, in the Strand, in which it was affirmed that party spirit made members of Election Committees to vote, not according to the evidence, but according to the bias. Mr. O'Connell, having defended himself, then retired; and Lord Maidstone moved that the expressions in Mr. O'Connell's speech contained a charge of foul perjury against Members of the House in the discharge of their judicial duties, and were, therefore, false and scandalous; and that Mr. O'Connell, having avowed the expressions, was guilty of a breach of privilege. Lord Howick moved, as an amendment, that the House go into Committee on the Irish Poor Law Bill. Lord Maidstone's motion was carried by 263 to 254; and, after a scene of considerable confusion, during which several Members avowed their participation in Mr. O'Connell's sentiments on the subject, it was moved that Mr. O'Connell be reprimanded by the Speaker. Further confusion followed, and the debate was ultimately adjourned to next day, when, after two divisions, it was decided that Mr. O'Connell should be reprimanded. He attended in his place on the 28th; and, after being reprimanded by the Speaker, he made a speech, in which he stated that he did not retract his expressions.

Mar. 5. (Lords.) Lord Brougham called the attention of the Peers to an Order in Council, issued in July, 1837, authorising the deportation of British subjects in the East Indies to British Guiana. He contended that the Order in Council sanctioned a new species of slave-trade. Lord Glenelg stated how the Order in Council had been obtained. The Duke of Wellington approved of any plan for supplying the West India planter with free labour, but thought that there was not sufficient protection for the East India hired labourers. He proposed that some person should be appointed to superintend the embarkation of the East Indians; that the nature of the bargain should be fully explained to them; and that provision should be made for their return to their own country, if they wished it, after a certain term of service. Lord Melbourne promised to adopt these suggestions.

(Commons.) Sir William Molesworth, after a long speech, in which he reviewed the entire colonial policy and management of the government, concluded with a motion for an address to the Queen, "declaring, with all deference to the constitutional prerogatives of the Crown, that her

Majesty's present Secretary of State for the Colonies does not enjoy the confidence of this House or of the country." Lord Sandon proposed an amendment, the purport of which was to confine the subject to a vote of censure on the management of the Canadian affairs. After a debate of two nights, Sir William Molesworth, at the request of Lord John Russell, withdrew his motion; and, on a division, Lord Sandon's amendment was rejected by 316 to 287.

Mar. 15. (Commons.) Petitions were presented for the repeal of the corn-laws; after which, Mr. Villiers made a speech, in which he explained the operation and effects of the corn-laws, and concluded with a motion for a Committee of the whole House "to consider the Act of 9 Geo. IV., cap. 60, relating to the importation of corn." This was followed by a debate and a division, when the motion was rejected by 300 to 95.

Mar. 19. (Lords.) Lord Brougham introduced a Bill for the entire abolition of the negro apprenticeship system in British colonies on the 1st of August, 1838. It was read a first time.

Mar. 20. (Commons.) Colonel Seale moved a resolution preparatory to the introduction of a Bill to permit the grinding of foreign corn in bond under certain regulations. The resolution was carried by 127 to 92. Mr. Poulett Thomson obtained leave to bring in a Bill to establish a system of international copyright. In his speech he stated a number of instances in which British authors or publishers suffered injury from the re-publication of their works abroad.

Mar. 27. (Commons.) Lord Eliot moved an address to her Majesty respecting the employment of British subjects in the service of the Queen of Spain, and the purport of which involved a censure of the policy of the government in originally permitting the raising of the British Auxiliary Legion. The debate was adjourned to next evening. The Speaker having put the question, in the usual manner, for allowing the resuming of the debate, nobody rose to speak; and, on a division, there were 70 against and 62 for the motion. The sudden termination of the debate caused some altercation afterwards.

Mar. 29. (Commons.) Six hundred and sixty-seven petitions were presented for the abolition of negro apprenticeship; and Sir George Strickland moved "That this House is of opinion that the apprenticeship in the British colonies, established by the 3 and 4 Will. IV., cap. 73, shall cease and determine." The motion was seconded by Mr. Pease. The debate was carried over to the following evening; but, on a division, the motion was lost by 269 to 205.

April 2. Much conversation, leading to no practical result, on the necessity of improving or altering the tribunal for trying controverted elections of Members of the House of Commons. One plan was before the House, embodied in a Bill, by Mr. Charles Buller, the further consideration of which was postponed; and other plans were proposed by Sir Robert Peel and Mr. O'Connell. On the following evening a somewhat acrimonious discussion arose respecting the expenses of the Earl of Durham, as Lord High Commissioner and Governor-General of the British North American Colonies.

April 25. (Commons.) Mr. Serjeant Talfourd, in moving the second reading of his Copyright Bill, entered into a statement of the nature of the protection which it was proposed to extend to authors. This raised a general discussion on the nature of copyright law in Britain—some Members contending that the existing law gave ample enough protection to authors, and that a further extension of the terms of copyright would be injurious; others supported the Bill,

as being required for the protection of literature. On a division, the second reading was voted by 39 to 34.

April 30. (Commons.) The third reading of the Irish Poor Law Bill was voted, on a division, by 234 to 59.

May 1. (Lords.) A Select Committee was appointed, on the motion of Lord Whamcliffe, to inquire into the operation of the English Poor Law Amendment Act.

May 1. (Commons.) A long discussion arose, on a motion of Mr. Colquhoun, for a return of the outrages committed in Ireland on Protestant ministers of the Gospel since June, 1835. The motion was unopposed.

May 3. (Lords.) The Earl of Ripon moved for a return of the expense of the Maltese Commission of Inquiry, and both he and the Duke of Wellington censured the proceedings of the commission, which were defended by Lords Glenelg and Melbourne.

May 3. (Commons.) Lord John Russell moved for the appointment of a Select Committee, "to inquire into the mode of granting and renewing leases of the landed and other property of the bishops, deans, and chapters, and other ecclesiastical bodies of England and Wales; and also into the probable amount of any increased value which might be obtained by an improved management, with a due consideration of the interests of the Established Church, and of the present lessees of such property." This produced a warm debate. Sir Robert Peel opposed the motion for a Committee in a speech in which he charged the Government with not keeping faith with the Church. The motion for a Committee was carried by 277 to 241. Afterwards a motion was made, that any increase in the amount or value of the church-property should be devoted to strictly clerical purposes, which was rejected by 265 to 254.

May 8. (Lords.) The Bishop of Durham, in presenting a petition from Manchester on behalf of a system of national education, took occasion to impress on their Lordships "the necessity of providing ample means of popular education, as they preferred innocence to crime, happiness to misery, peace and good government to confusion and insubordination."

May 8. (Commons.) Mr. Baines moved for a Committee of the whole House, to consider "the propriety of abolishing the first fruits of the clergy in England and Wales, and the more effectual rating and the better collection of the tenths, applicable to the maintenance of the poor clergy." The motion was resisted, but carried by 48 to 27. The House went into Committee, and Mr. Baines handed in his resolutions; but they were not pressed, and the Committee rose.

May 9. (Commons.) The Bill for allowing corn to be manufactured in bond, for exportation, was thrown out, on the second reading, by 220 to 70. Mr. Serjeant Talfourd's Copyright Bill was carried into Committee by 119 to 52.

May 10. (Commons.) Sir Robert Peel moved for leave to bring in a Bill "to amend the laws relating to the jurisdiction for the trial of controverted elections," which was granted; and Sir Robert Inglis moved for an address to the Queen respecting the horrors and atrocities of the foreign slave-trade, which was agreed to.

May 14. (Commons.) On the order of the day having been read for a Committee of the whole House, to take into consideration the subject of Irish tithes, Lord John Russell rose, and stated the general principles on which it was proposed to settle the question. Sir Thomas Acland then moved, that the appropriation resolutions of the 7th and 8th April, 1835 (see Companion for 1836, p. 191),

be rescinded. A debate arose which extended into two nights, and in which Sir Robert Peel, Lord Stanley, Mr. O'Connell, and other leading members took part. On a division, there were, for going into Committee on Irish Tithes, 317; for rescinding the appropriation resolutions of 1835, as a preliminary to going into Committee, 298; majority 19.

May 18. (Commons.) The Chancellor of the Exchequer made his annual financial statement. The estimated income for the year ending 5th April, 1838, had been 47,240,000*l*., while the actual income was only 46,090,000*l*., the estimated expenditure had been 46,873,000*l*., while the actual expenditure was 47,519,000*l*. leaving a deficiency in the revenue of 1,429,000*l*. He explained that the deficiency was in great part caused by the extraordinary expenses incurred by the Canadian insurrection, and to the necessity for providing for the payment of the whole amount of the interest on the West India loan.

May 21. (Lords.) A debate of a somewhat acrimonious character arose on the motion for the second reading of the Irish Poor Law Bill. The second reading was carried by 149 to 20.

May 22. (Commons.) Many hundred petitions were presented for the abolition of negro apprenticeship in the West Indies. After which Sir Eardley Wilmot moved, and Mr. Villiers seconded, the motion, "That it is the opinion of this House that negro apprenticeship in the British colonies should immediately cease and determine." It was carried by 96 to 93. Some conversation then arose as to whether it was the intention of Sir Eardley Wilmot to bring in a bill founded on the resolution, Lord John Russell announcing that Ministers would oppose such a bill.

May 24. (Commons.) Sir James Graham moved for leave to bring in a Bill for disqualifying Hawick from being a polling-place for the county of Roxburgh, on account of some alleged riots at the last election. The debate was adjourned to next evening, when the motion was resisted by 272 to 250.

May 28. (Lords.) The Marquis of Londonderry presented a petition for the postponement of the Coronation to the 1st of August, and also deprecating any curtailment of the usual splendour of the ceremony. Earl Fitzwilliam said, that "so far from blaming Her Majesty's Ministers for omitting the pageant in Westminster Hall, he regretted that they had not courage to go further, and put an end to the whole ceremony, as fit only for a semi-barbarous age."

May 28. (Commons.) Sir George Grey moved two resolutions, their practical purport being to rescind Sir Eardley Wilmot's resolution respecting negro apprenticeship, but which also pledged the House to direct its attention to the state and condition of the negro population. Sir Eardley Wilmot moved, as an amendment, that it was expedient to carry out his resolution by a legislative enactment. After a debate Sir George Grey's motion was carried by 250 to 178.

June 11. (Commons.) In Committee on the Irish Municipal Corporations' Bill a debate arose, on the motion of Sir Robert Peel, that the qualification of municipal voters in Ireland should be 10*l*., instead of 5*l*. On a division, there were, for the 5*l*. qualification, 286, against it 266, majority 20.

June 14. (Commons.) Mr. Wyse moved, that an address be presented to the Queen, for the appointment of a Board of Commissioners of Education in England, and for the establishment of a national system of education. Lord John Russell admitted the great importance of the subject, but was not prepared to agree to Mr. Wyse's proposal, on account of no specific plan of education being

prepared likely to meet with general approbation. The motion was lost by 74 to 70.

June 19. (Lords.) The Marquis of Londonderry, in a speech which occupied nearly three hours in delivery, called the attention of the House of Lords to the Spanish policy of Ministers, the conduct of the civil war in Spain, and the treatment of the British Auxiliary Legion. In the course of a debate on the subject an altercation arose between the Marquis of Lansdowne and Lord Lyndhurst.

June 20. (Commons.) Mr. F. Baring moved the second reading of a bill for "the provisional government of British settlements in the islands of New Zealand." He stated that an association had been formed for establishing a colony in New Zealand; and pointed out various evils arising from the influx of British settlers, without being under any regular form of government. But the Bill was thrown out by 92 to 32.

June 21. (Commons.) A report from a Select Committee was presented respecting the accommodation for the House of Commons in the Abbey of Westminster on the day of the coronation, and the regulations to be observed by the members.

June 25. (Lords.) Lord Lyndhurst moved for a Select Committee to inquire into the manner in which Sheriffs had been appointed in Ireland in the years 1835 to 1838. As an object of the motion was to censure the Lord Lieutenant of Ireland for occasionally setting aside the judges' lists, the subject created debate. Lord Denman wished the inquiry to be extended to England, the law being, he said, "exceedingly uncertain and ill-defined." Lord Brougham thought that the Lord Chief Justice of England should avoid so decided an expression of opinion.

(Commons.) Lord John Russell moved the third reading of the Irish Municipal Corporations' Bill. Lord Francis Egerton moved, as an amendment, that the bill be read a third time that day three months. On a division, the third reading was carried by 169 to 134, and the Bill passed.

June 28. (Commons.) The members of the House met early, and proceeded in order to their gallery in Westminster Abbey, to witness the Coronation.

July 2. (Commons). The order of the day having been read for going into Committee on the Irish Tithe Bill, Mr. Ward moved a series of resolutions relative to the appropriation of a surplus of Irish Church Revenues to the general instruction of the people, reciting the former decisions of the House, and ending with an instruction to the Committee to make provision in the Bill for these purposes. Lord Morpeth stated that Ministers had abandoned the appropriation principle, solely because they saw no prospect of carrying it. Mr. Ward's motion was rejected by 270 to 46.

July 3. (Lords.) A conversation arose respecting the dismissal of the Executive Council in Lower Canada by the Earl of Durham, and the appointment of a new body, to act in the same capacity.

July 9. (Lords.) The Irish Poor Law Bill, after a debate, was passed by 93 to 31.

July 16. (Commons.) Previous to the House going into Committee on the Irish Tithe Bill, Lord John Russell stated what was proposed to be done with respect to the 3rd and 4th William IV., commonly called the Million Loan Act; and on the 19th, he proposed that the residue of the million loan be applied to the relief of tithe owners. Mr. Hume moved an amendment, deprecating the measure as unjust, which was seconded by Mr. Ward. After an animated debate Lord John Russell's motion was assented to by 170 to 61.

July 24. (Commons.) Lord John Russell moved that certain amendments of the Lords, on the Irish Poor Law Bill, be taken into consideration. The Speaker said, that it was his duty to point out that the privileges of the Commons had been interfered with by these amendments, though he thought that, on the present occasion, these privileges need not be pressed. Lord John Russell agreed with the Speaker, and the amendments were agreed to, with a few verbal alterations.

July 30. (Lords.) Lord Brougham called the attention of the House to two ordinances issued by the Earl of Durham in Canada (see Chronicle of Occurrences), and pronounced them illegal. Lord Melbourne deprecated the attack on the Earl of Durham.

August 2. (Commons.) Amendments made by the Lords on the Irish Municipal Corporations' Bill were taken into consideration. Several divisions took place on alterations proposed by Lord John Russell on these amendments; and on the following night a Committee was appointed to draw up reasons for disagreeing with the Lords' amendments.

August 3. (Lords.) The Irish Tithe Bill passed through Committee. Lord Brougham assailed Ministers for abandoning the appropriation resolutions. Lord Melbourne said he had not abandoned them, but did not think it wise to press them.

August 7. (Lords). Lord Brougham introduced the subject of the illegality of the ordinances which had been issued by the Earl of Durham in Canada; and, on the following evening, introduced a bill of indemnity for those who had acted under them. This bill was read a first time without remark; but, on the 9th, on the motion for the second reading, a debate arose, in which it was affirmed by the Duke of Wellington and other peers that the ordinances were illegal. The Bill of Indemnity was read a second time by 54 to 36.

August 9. (Commons.) A conference having been held between certain appointed members of the Lords and Commons, on the subject of the Irish Municipal Corporations' Bill, the managers of the Conference on the part of the Commons, reported that the Lords did not insist upon some of their amendments, but refused to abandon others. Lord John Russell then said, that as Ministers could not agree to these amendments, he should propose to get rid of the bill, and accordingly moved, that the Lords' Amendments be considered that day three months. This was agreed to, and the bill was lost.

August 10. (Lords.) On the order of the day being read for going into Committee on Lord Brougham's Indemnity Bill, Lord Melbourne said, that, after the division on this Bill on the previous evening, Ministers had come to the resolution of disallowing the Earl of Durham's ordinances. [See the abstract of the Indemnity Bill, at p. 158.]

August 16. (Lords.) The Queen went in state to prorogue Parliament. The Speaker of the House of Commons made his usual statement of the various subjects which had engaged the attention of the House of Commons, and presented a Bill of Supply; and the Royal Assent having been given to several bills, the Queen read the speech. The House of Commons was thanked for the Civil List and the annual supplies for the public service; the state of Canada was alluded to; satisfaction was expressed on the subjects of the legislative provision for the Irish poor, and at the progress of negro emancipation in the colonies; and when the speech was concluded, the Lord Chancellor announced that Parliament was prorogued to the 11th of October.

XXII.—PRIVATE BILLS OF THE SESSION OF PARLIAMENT 1837-8.

I. Numerical abstract of the Petitions and Private Bills for the Session 1837-8:—

Petitions presented to the Commons, or Bills brought from the Lords	231
Bills read a first time	195
Bills read a second time	164
Bills read a third time	158
Number which received the Royal Assent	152

The number of petitions presented, or bills brought from the Lords, is eighty-one fewer in the Session of 1837-8 than in 1837; and the number of bills which received the Royal Assent is fewer by forty.

II. Comparative classification of Private Bills for ten years:—

Bills Passed.	1829	1830	1831	1832	1833	1834	1835	1836	1837	1837-8
Agriculture	26	25	19	16	19	18	5	11	12	21
Companies	6	2	3	3	10	9	3	11	6	2
Improvement of Towns and Districts	42	39	27	34	24	42	42	45	41	42
Internal Communication	83	83	100	64	81	37	56	67	68	46
Navigation	5	11	5	6	3	7	10	17	14	8
Private Regulation	45	48	40	35	28	29	44	42	51	33
Total	207	208	194	158	165	142	160	193	192	152

The average number of Private Bills passed annually during the ast ten years is 177, and for the last five years 167.

III. Abstract of Petitions and Private Bills, Session 1837-8:—

I. Agriculture:—	Petitions.	Passed.	Not Passed.
1. Inclosures	24	19	5
2. Drainage	4	2	2
	28	21	7
II. Companies:—			
1. National Fund Life Assurance	1	1	0
2. India Steam-Ship	1	1	0
3. Anderton Carrying	1	0	1
4. Anti-dry rot	1	0	1
5. British Pledge	1	0	1
6. Fleetwood Tontine	1	0	1
7. Galvanization of Metals	1	0	1
8. New Brunswick and Nova Scotia Land	1	0	1
9. Protestant Dissenters' Assurance	1	0	1
10. St. George Steam-Packet	1	0	1
11. South Australia Colonization	1	0	1
12. Thames Drainage and Manure	1	0	1

	Petitions.	Passed.	Not Passed.
13. Thames Purifying . .	1	0	1
14. Varteg Iron . . .	1	0	1
	14	2	12
III. Improvement of Towns and Districts:—			
1. General Improvement .	11	6	5
2. Bridges, County Halls, Markets, Churches, Cemeteries, Paving . .	26	17	9
3. Water and Gas Works .	14	9	5
4. Municipal Regulations .	18	10	8
	69	42	27
IV. Internal Communication:—			
1. Roads	33	27	6
2. Railways . . .	24	16	8
3. Canals	2	1	1
4. Rivers	2	1	1
5. Ferries	2	1	1
	63	46	17
V. Navigation:—			
Harbours, Piers, Docks, &c.	21	8	13
VI. Private Regulations:—			
Estates, Naturalization, Divorce, &c. . .	36	33	3
Total . .	231	152	79

I. Agriculture. *Inclosures and Drainage.*—The Bills under this head relate to—

Cambridge.—An act for inclosing lands in the parish of Sutton, in the Isle of Ely and county of Cambridge.

An act for inclosing lands in the parish of Swansey, in the county of Cambridge.

An act for inclosing lands in the parish of Linton, in the county of Cambridge.

An act for inclosing lands in the parish of Witcham, in the Isle of Ely, in the county of Cambridge.

An act for inclosing lands in the parish of Chesterton, in the county of Cambridge.

An act for dividing, allotting, and inclosing the open and common fields, meadows, lands, commons, and commonable places, in the parish of Fen Drayton, in the county of Cambridge.

Devonshire.—An act for inclosing lands in the parish of Bratton Fleming, in the county of Devon.

Essex.—An act for inclosing lands in the parishes of Berden, Manewden, and Stansted Mountfitchet, in the county of Essex.

An act for inclosing lands in the manor of Great Warley, in the several parishes of Great Warley and Shenfield, in the county of Essex.

Gloucestershire.—An act for inclosing lands in the parish of Quedgley, in the county of Gloucester.

An act for inclosing lands in the parishes of Wickwar, Cromhall, and Tortworth, in the county of Gloucester.

Norfolk.—An act for inclosing lands in the parishes of Pulham St. Mary the Virgin, and Pulham St. Mary Magdalene, in the county of Norfolk.

Northamptonshire.—An act for inclosing lands in the parish of Higham Ferrers, in the county of Northampton.

Oxfordshire.—An act for inclosing lands in the township of Curbridge, in the county of Oxford.

Pembrokeshire.—An act for dividing, allotting, and inclosing common and waste lands, called Portfeld, otherwise Poorfield, in the county of the town of Haverfordwest.

Shropshire.—An act for inclosing lands in the manors of Bishop's Castle and Munslow, in the county of Salop.

Staffordshire.—An act for dividing, allotting, and inclosing a certain tract of uninclosed common or waste land, called Ogley Hay, in the county of Stafford.

Suffolk.—An act for inclosing lands in the parish of Gazeley, in the county of Suffolk.

Westmoreland.—An act for inclosing lands within the townships or divisions of Strickland Roger, Whinfell, and Helsington, in the parish of Kirkby-in-Kendal, in the county of Westmoreland; and for draining and improving certain lands in the said township of Helsington, and in the townships of Underbarrow, Bradley Field, and Levens, in the parishes of Kirkby-in-Kendal, and Heversham, in the same county.

Drainage.—An act for amending the act of King George III. for draining lands in South Holland, and for repairing and maintaining the road from Spalding High Bridge to Brother House, all in the county of Lincoln.

An act for draining and embanking certain lands in Lough Swilly and Lough Foyle, in the counties of Donegal and Londonderry.

II. Companies. An act to enable the National Loan Fund Life Assurance Society to sue and be sued in the name of the chairman or secretary, or any one director, of the said society.

An act for forming and regulating a company, to be called the India Steam Ship Company, and to enable the said company to purchase certain letters-patent.

III. Improvement of Towns and Districts. *General Improvement.*—An act for better paving, cleansing, lighting, watching, and otherwise improving, the town of Milton-next-Sittingbourne, in the county of Kent.

An act for the improvement of the borough of Tenby, in the county of Pembroke; and for regulating and maintaining the harbour and pier belonging thereto.

An act to amend an act of the forty-eighth year of the reign of his Majesty King George III., relating to the improvement of the town of Leominster, in the county of Hereford.

An act for making a new street or thoroughfare, and widening and improving certain other streets and thoroughfares, within the town and borough of Sheffield, in the county of York.

An act to amend an act passed in the third year of the reign of his late Majesty King William IV., intituled "An act for paving, lighting, watching, cleansing, and otherwise improving, the township or chapelry of Birkenhead, in the county palatine of Chester, and for regulating the police thereof, and for establishing a market within the said township.

An act for better paving, lighting, watching, and improving the parish of Ramsgate, in the county of Kent, and for regulating the police thereof.

Bridges.—An act for building a bridge over the river Thames, from Cookham, in the county of Berks, to the opposite shore, in the county of Bucks.

An act for establishing a floating bridge or bridges over the harbour of Portsmouth, from or near a place called Gosport Beach, in the parish of Alverstoke, in the county of Southampton, to the opposite shore, to or near a place called Portsmouth Point, in the parish of Portsmouth, with proper approaches thereto.

An act for building a bridge over the river Wye, at a place called Boughroad Ferry, in the counties of Brecon and Radnor, and for making approaches thereto.

An act to amend an act passed in the fifth and sixth years of the reign of King William IV. regarding Londonderry bridge; and to amend several acts relating to the city and port of Londonderry.

An act for building a bridge over the river Dove at Rocester, in the county of Stafford.

An act for building a bridge from the parish of St. Philip and Jacob, over the floating harbour, to the parish of Temple, in the city and county of Bristol.

An act to repeal, amend, and enlarge some of the provisions of the act relating to the Metropolitan Suspension Bridge.

An act for building a bridge over the river Tweed between Ladykirk, in the county of Berwick, and Norham, in the county of Durham, and for making avenues and approaches thereto.

Market-places, Cemeteries, Churches, &c.—An act for providing market-places, and for regulating the markets, within the borough of Brecon, in the county of Brecon.

An act for establishing a general cemetery in the parish of Gravesend, in the county of Kent.

An act for the erection of a new church in the parish of Lee, in the county of Kent.

An act for the erection and endowment of a chapelry for the district of Lower Beeding, and for other purposes.

Gas and Water Works.—An act for supplying with water the town of Bury, and the several townships of Walmersley-cum-Shuttleworth, Bury, and Elton, all in the parish of Bury, in the county palatine of Lancaster.

An act to amend an act for making and maintaining the Turton and Entwisle reservoir.

An act for making and maintaining a reservoir at Deanhead, in the parish of Huddersfield, in the West Riding of the county of York, and for other purposes relating thereto.

An act for better lighting with gas the town and township of Blackburn, in the county palatine of Lancaster.

An act to enable the Exeter Commercial Gas-light and Coke Company to raise a further sum of money.

An act to amend an act of King George IV. for lighting with gas the borough of Leicester, in the county of Leicester, and the liberties, precincts, and suburbs thereof.

An act for lighting with gas the town of Leamington Priors, and the neighbourhood thereof, in the county of Warwick.

An act for enlarging and extending the powers and altering and amending the provisions of an act possed in the eighth year of the reign of King George IV., intituled an act for lighting with gas the town of Oldham, and the neighbourhood thereof, within the parish of Prestwich-cum-Oldham, in the county palatine of Lancaster, and for the better supplying the inhabitants of the said town and neighbourhood with water.

An act to alter and amend, and in part repeal, the powers of certain acts for supplying the city of Glasgow and suburbs with water; to enable the company of proprietors of the Glasgow water-works to purchase the Cranston-hill water-works, and to raise a further sum of money; and to alter the rates leviable by the said company of proprietors.

Municipal Regulation.—An act for regulating the market in the town of Exmouth in the county of Devon.

An act for the more speedy and easy recovery of small debts within the parishes of Oakham and Uppingham, and other places in the counties of Rutland, Leicester, and Northampton.

An act for amending the provisions of two acts of Parliament relating to the city of Hereford; and for limiting the duration of St. Ethelbert's, or the nine days' fair, held annually in the said city.

An act to regulate and secure the debt due by the City of Edinburgh to the public; to confirm an agreement between the said city and its creditors; and to effect a settlement of the affairs of the said city and the town of Leith.

An act for the more speedy and easy recovery of small debts within the town of Barnsley, and other places in the West Riding of the county of York.

An act for amending certain acts relating to the Civil Court of Record of the borough of Liverpool, and improving the proceedings thereof.

An act for uniting the medieties of the rectory of Liverpool, in the county palatine of Lancaster, and for the better endowment thereof, and of certain churches in the said town.

An act for the more easy and speedy recovery of small debts within the town of Ashby-de-la-Zouch, and other places in the counties of Leicester, Derby, Warwick, and Stafford. [A subsequent act (No. xci.) was passed to rectify a mistake in the above act.]

An act to amend an act for the amendment of four several acts passed in the 5th, 6th, 10th, and 47th years of the reign of his late Majesty King George III., for the recovery of small debts within the hundreds of Blackheath, of Bromley, and Beckenham,

of Rokesley, otherwise Ruxley, and of Little and Lessness, in the county of Kent, and within the hundred of Wallington in the county of Surrey, and to extend the powers thereof.

An act to continue for seven years an act for regulating the vend and delivery of coals in London and Westminster, and in certain parts of the adjacent counties.

IV. INTERNAL COMMUNICATION.—*Roads.*—The 27 road bills passed relate to the following roads:—from Warminster and from Frome to the Bath road and other roads; Haleworthy and Wadebridge through the borough of Mitchell, Cornwall; certain roads in the county of Kincardine; Odsall and Huddersfield through Wibsey Low Moor; Shrewsbury to Wrexham, through Ellesmere; Combmartin to Bratton Down, Devon; Lower King's-Ferry roads, Cheshire and Flintshire; roads from Buckstones to the Rochdale and Elland turnpike-road, and from Sykelhouse to Stainland; from French Top, Yorkshire, to Stayley, Cheshire; Ruscombe to Reading, Berks; roads in the Forest of Dean and places adjoining; from near Salterhebble to the Huddersfield and New Hey turnpike; from Wakefield to Halifax, and from near Hipperholm Bar to near Stump Cross; from Brampton Bierlow to Mexbro', and from Rawmarsh to Hooton Roberts; from Towcester to the turnpike-road in Cotton End, parish of Hardingston, Northamptonshire; from Aylesbury to Thame, and the roads from Thame to Oxford, Shillingford, Postcomb, and Bicester, in the counties of Bucks and Oxford; certain roads in the counties of Stirling, Dumbarton and Lanark; from Quebec to Holmefield-lane End, in the parish of Leeds; from Maulden-wood Corner to Westwood Gate, Bedfordshire; certain roads in the county of Linlithgow; from Dundalk to Dunbar, in the county Louth; from Lutterworth Hand, on the Watling-street road, to the turnpike-road between Dunchurch and Hillmorton, Warwickshire; Wadsley and Langset district of the Wadsley and Langset road, for extending the said district to Moorfields, in the parish of Sheffield; for varying and altering the lines of the Kirkstall, Ilkley, and Shipley district of road, and making a new road from the Otley branch to Burley, Yorkshire; certain roads in the county of Caithness; road from Stanningley to Water-lane, Leeds; and for making a new road from the Dudley Hill and Killinghall road to the Leeds and Harrogate road, and to maintain the first-mentioned road. Several of the above acts are for amending or enlarging the powers of former acts.

River.—An act to repeal an act passed in the 46th year of the reign of his Majesty King George III., for improving the navigation of the river Ribble, in the county palatine of Lancaster, and for the further improvement of the navigation of the said river.

Canal.—An act for enabling the company of proprietors of the Manchester, Bolton, and Bury Canal navigation and railway to raise more money; and for amending the powers and provisions of the several acts relating thereto.

Ferry.—An act for establishing a steam-navigation over Milford Haven, at or near Pembroke Ferry, in the county of Pembroke.

Railways.—The number of acts relating to railways is 16,

being 26 fewer than in the previous session. The following are the titles of each of the 16 acts of the present session:—

An act to enable the London and Croydon Railway Company to enlarge their station in the parish of St. Olave, in the borough of Southwark, in the county of Surrey, and to amend the acts relating to the said railway and station.

An act to enable the St. Helen's and Runcorn Gap Railway Company to raise a further sum of money, and for amending the provisions of the several acts relating to such railway.

An act to enable the Brandling Junction Railway Company to raise an additional sum of money.

An act to authorise the Newcastle-upon-Tyne and Carlisle Railway Company to raise an additional sum of money for the purposes of their undertaking.

An act to alter the line of the Cheltenham and Great Western Union Railway, and to amend the act relating thereto.

An act for making several branches in the county of Somerset from the line of the Bristol and Exeter railway, and for amending the act relating to such railway.

An act for enabling the Bolton and Preston Railway Company to extend and alter the line of such railway, and to make collateral branches thereto, and for amending and enlarging the powers and provisions of the act relating thereto.

An act for amending and enlarging the provisions of the act relating to the Midland Counties Railway, and for making a branch therefrom to the town of Mountsorrel, in the county of Leicester.

An act for making a railway from Edinburgh to Glasgow, to be called the Edinburgh and Glasgow Railway, with a branch to Falkirk.

An act to alter, amend, extend, and enlarge the powers and provisions of the several acts relating to the Grand Junction Railway, and for other purposes connected therewith.

An act for altering and amending several acts relating to the Garnkirk and Glasgow Railway; and for enabling the company to raise a further sum of money.

An act to enable the Newtyle and Cupar Angus Railway Company to raise a further sum of money.

An act for granting further powers to the Festiniog Railway Company.

An act to amend and enlarge the powers and provisions of the act relating to the Eastern Counties' Railway.

An act to alter the line of the Birmingham and Derby Junction Railway.

An act for extending the time for completing the London and Greenwich Railway.

V. NAVIGATION.—*Harbours, Piers, and Docks.*—An act for making and maintaining a harbour and other works at Paington, in the county of Devon.

An act to amend the several acts relating to the West India Dock Company and the East India Dock Company, and to consolidate the said companies.

An act for making and maintaining a pier or jetty and other works at the town and borough of Deal, in the parish of Deal, in the county of Kent.

An act for extending the time for making a dock or docks at Southampton.

An act to amend and enlarge the powers and provisions of an act passed in the 1st and 2nd years of the reign of King William IV., for erecting and maintaining a pier and other works for landing and embarking passengers in the port of the town of Southampton.

An act for maintaining the pier and harbour of New Quay, in the county of Cornwall.

An act to repeal an act of the last session of Parliament, for improving the harbour of Fishguard in the county of Pembroke..

An act for making a railway from Penhill, in the parish of Fremington, in the county of Devon, to the town of Barnstaple, and for constructing a dock in the said parish of Fremington, to be called the Taw Vale Railway and Dock.

VI. PRIVATE REGULATION.—Thirty-six petitions for bills were presented, and 33 bills received the royal assent. The following are the only acts of this class which are of public interest:—

An act to incorporate the subscribers to the institution called the Refuge for the Destitute, and for the better enabling them to carry on their charitable designs.

An act to incorporate the governors and subscribers to St. Luke's Hospital for Lunatics, and for better enabling them to carry on their charitable designs.

An act to enable the governors of the possessions, revenues, and goods of the Free Grammar School of King Edward VI., in Macclesfield, in the county of Chester, to establish a second school, to be called the Modern Free School, in Macclesfield, in the county of Chester, and for other purposes.

An act for effecting an exchange between the Wardens and Fellows of the College of All Souls, Oxford, and Thomas Penrice, Esq.

An act for enabling the trustees of certain lands situate in the parish of Paddington, in the county of Middlesex, to grant building leases of the said lands, and for other purposes.

An act for authorising the Mayor, Aldermen, and Burgesses of the borough of Sudbury, in the county of Suffolk, to release and discharge from spackage and commonage certain lands within the said borough, and for other purposes relating to other lands belonging to the said borough.

An act for enabling the governors of the possessions, revenues, and goods of the Free Grammar School of the parishioners of the parish of St. Saviour, in Southwark, in the county of Surrey, to sell the old school and school-houses, and the site thereof; and also for enabling the Right Rev. Charles Richard Lord Bishop of Winchester to grant to the said governors another site for the purpose of a more convenient school and school-house, and proper offices, being erected thereon.

XXIII.—PUBLIC PETITIONS.

Session 1837-8.

Parliamentary.

	No. of Petitions.	No. of Sigs.
Ballot, against	4	1,310
——— in favour	365	181,506
Election Committees	9	2,352
Elective Franchise	7	2,226
Household Suffrage	6	11,250
Septennial Act	1	726
Universal Suffrage, &c.	23	16,229
Total petitions relating to parliamentary subjects	466	226,066

Ecclesiastical.

Benefices Plurality Bill, against	27	2,738
Bible Printing (Scotland)	36	7,965
Church Property, for applying surplus to spiritual instruction	391	25,305
Church Rates, for abolition	5	134
Church of Ireland, suggesting reforms	28	3,664
Church of Scotland, against further endowment	387	153,142
——————— for further endowment	12	2,579
——————— for abolition of lay patronage	2	87
Ecclesiastical Duties and Revenues Bill, against	32	1,104
Established Church, for reform	2	570
Lord's Day Bill, in favour	82	19,287
Maynooth College, against further grant	52	11,639
——————— in favour of grant	1	1,400
Registration and Marriages Acts	12	705
Roman Catholic Relief Act, for repeal	4	6,215
Tithe Commutation Act	7	96
Tithes (Ireland), against alteration	1	124
——————— for abolition	109	80,060
——————— against proposed measure	13	543
Total petitions on ecclesiastical subjects	2,299	538,263

Colonial.

Canada, Church Establishment	43	4,521
——— against war	74	12,192
Idolatry (India)	301	51,043
Negro Apprenticeship, against abolition	3	228
——————— for abolition on 1st of August—Sir G. Strickland's motion	2,143	511,391
——————— for immediate abolition—Sir Eardley Wilmot's motion	2,032	601,701
Negroes (British Guiana)	5	1,197
New Zealand Bill, against	5	1,074
——————— in favour	2	299
Steam communication with India	2	6,308
Total petitions on colonial matters	4,644	1,207,903

	No. of Petitions.	No. of Sigs.
Taxes.		
Corn Laws, for repeal	59	81,469
Fire Insurances	7	546
Hops	30	535
Marine Insurances	34	2,831
Post-horse, stage-coach, &c., duties	44	4,259
Postage	320	8,709
Soap	15	1,844
Windows	2	417
Wool, olive-oil, &c.	6	11,274
Total petitions relating to the remission or reduction of taxes	538	88,183
Miscellaneous.		
Apothecaries' Act, for amendment	10	276
——— against further privileges	3	6,020
Bonding warehouses	23	6,621
Coal trade	7	2,620
——— Port of London Bill, against	15	557
Copyright Bill, against	114	7,937
——— in favour	1	1
Courts of Request—medical accounts	5	67
Dorchester labourers	11	3,899
Drunkenness	4	943
Education, for a national system	30	49,981
——— for daily reading of Scriptures	15	15,381
Factories Act	19	7,563
——— Regulation Act, against	86	12,780
Highway Rates Bill, against	32	1,658
——— in favour	26	252
Licensed victuallers	5	431
Local courts	8	1,487
Metropolis improvements	23	2,029
Municipal Boundaries Bill, for alteration	66	7,558
——— in favour	14	2,415
Municipal Corporations Act, for amendment	6	409
Municipal Offices Declaration Bill, for extension	4	5
Parochial Assessments Bill, against	43	1,587
——— in favour	1	93
Patterns and Inventions Bill, against	1	182
——— in favour	14	155
Poor Law Amendment Act, for repeal or alteration	340	254,175
——— in support	23	1,184
Poor Law Unions (Gilbert's Act)	6	10,025
Rating of Tenements Bill, against	62	9,829
——— in favour	54	2,338
Recovery of Tenements Bill, against	1	1
——— in favour	14	4,436
Sale of Beer Act, against repeal	6	1,142
——— for repeal or alteration	73	27,587
Spirituous Liquors Sale Bill, against	4	47
Spiritous Liquors Sale Bill, in favour	7	411
Total miscellaneous, England and Wales	1,725	577,766

	No. of Petitions.	No. of Sigs.
Bank of Ireland, against renewal of charter	12	1,096
Education, against the present system	92	20,724
Medical Charities Bill, against	40	962
——— in favour	36	588
Medical profession	8	336
Municipal Corporations Bill, against	10	657
——— in favour	69	32,956
Poor Relief Bill, against	116	39,922
——— in favour	4	593
Spirit-dealers	83	3,941
Total miscellaneous, Ireland	574	119,900
Glasgow cotton-spinners	69	32,073
Municipal corporations, for reform	5	468
Prisons Bill, against	26	1,681
——— in favour	2	2
Royal Burghs Bill (No. 1), against	4	39
——— (No. 2), against	9	51
——— in favour	2	87
Small Debts Bill, against	8	943
——— in favour	21	2,587
Spirit Licences Bill, against	14	65
——— in favour	2	1,379
Spirit Licences and Spirituous Liquors Sale Bill, in favour	5	4,534
Total miscellaneous, Scotland	278	98,101
Bonded Corn Bill, against	76	9,439
——— in favour	17	609
Combination of workmen, against	10	1,974
——— in favour	7	4,073
Employment of the poor	21	4,805
Fourdrinier's patent	7	571
French claims	12	18
French trawl-boats	4	63
Hand-loom weavers	4	2,660
International Copyright Bill, in favour	7	157
Mails on Railway Bills, against	27	631
Pilotage Bill, against	31	2,976
——— in favour	3	29
Shipping Gazette	12	974
Soldiers' wives and children	5	289
Other miscellaneous petitions	307	49,723
Total number of petitions presented	10,831	2,905,905

XXIV.—PUBLIC IMPROVEMENTS, &c.

During the last twelvemonth comparatively little has been done in the metropolis. Two or three buildings, already mentioned in our preceding volume as being then either in progress or just commenced, are now completed—viz., the Railway Entrance, Euston-square, the new front of the Royal Institution, the London and Westminster Bank, and the church in Gray's-inn Road; yet, excepting those and the new Synagogue near Crosby-square, scarcely any building of note has been erected or even begun in town. If, however, the elapsed year has been rather more barren than usual, it has been one that will lead to an undertaking of more than ordinary importance and magnitude, owing to the destruction of the Royal Exchange by fire on the night of January 10th, when little more than the tower and external walls was left standing. The former has since been taken down, but even as yet the ground has not been completely cleared. Neither has anything been determined as to the new edifice, or whether it will be thrown open to general competition; consequently some time must elapse before anything can be definitively known respecting it. The only thing that can be taken for granted is, that the limits of the present site will not be so strictly adhered to as to prevent the edifice being planned in such manner as will allow the north side to be parallel with the opposite front of the Bank, whereas before it made not only a most disagreeable angle with the latter, but contracted the street very inconveniently also. This will, of course, present some difficulties, yet not more than what, by leading to greater study, may lead also to more originality of plan than would else be attempted. For another building, of which it may confidently be predicted that it will prove a very superior piece of architecture, preparations have actually commenced, viz., the Reform Club House, adjoining the Travellers', by Mr. C. Barry, the architect of the last-mentioned edifice; and, though the new one will be loftier and much more extensive, it may be presumed that Mr. Barry has taken care it shall not interfere with a design which has deservedly gained him so much credit, by overpowering it. Two new cemeteries are about to be formed in the immediate vicinity of the metropolis,—one to be called the Abney Park Cemetery, at Stoke Newington, the other the West London, at Earl's Court, Kensington, for the buildings connected with which latter there has been a competition, and the designs were sent in on the last day of August. Another more embryo project is that for establishing a public Botanic Garden in the Regent's Park, the spot selected for the purpose being the whole of the inner circle, which it is intended to lay out in gardens appropriated to plants of different countries, and to ornament with a variety of characteristic buildings. Of these, one of the principal is to be a large rotunda, or circular conservatory, in the

very centre, to which a grand promenade will lead directly from the chief entrance, raised on a viaduct or terrace, fenced by balustrades with vases, &c. There will likewise be a very extensive piece of water, forming a deeply indented lake, studded with islets. Preparations are already making for taking down the whole range of houses between Downing and Fludyer-streets, as far as the official residences of the Secretaries of State, in order to erect on their site new buildings for the departments of the Home and Foreign Offices. They will be erected from the designs of Mr. Decimus Burton, but whether they are to be in a plain or ornamental style of architecture remains to be seen. Most probably, however, they will be in the latter, and, if so, be made to assimilate, in some degree, with that angle of Downing-street which is occupied by the south front of the Board of Trade. The same architect is also employed for the building which is about to be commenced on the west side of Regent-street, just by St. Philip's Chapel, for Club Chambers; but, though we may reasonably anticipate a handsome edifice, we are at present unable to state anything positive in regard to it.

In regard to works of mere embellishment, two very important ones are in contemplation, namely, the Nelson monument, and the equestrian Wellington statue. For the former, the centre of Trafalgar-square has been decided upon as the most suitable site; and it is said to be intended to lay out the whole of that area in an ornamental manner, though not to plant it with trees, or give it anything of the character of a garden. As each artist is left to his own ideas, and the designs will not be sent in until January, nothing can be safely conjectured as to the nature of the monument, whether it is to be a column, arch, or fountain, or to consist chiefly of sculpture. Even the Wellington monument is not ultimately settled, it being doubtful whether it will be placed upon the summit of the archway in the Green-park; for the model which was put up on that edifice, by way of preparatory experiment, does not appear to have given satisfaction; and it has since been proposed by Mr. R. Wallace that the statue should be erected upon a lofty pedestal at the bottom of the flight of steps leading down from the York column into St. James's-park. Before our next publication many, if not all, of these buildings and improvements will have manifested themselves, and will, no doubt, furnish us with interesting materials for our next volume.

1.—Churches.

The eighteenth annual Report of the Commissioners states that five churches have been completed, eighteen are in progress, and that plans for eight others are under consideration; which last it is purposed to erect at the following places, viz.—Oldbury, parish of Hales Owen, Salop; Penwortham, Lancashire; Ashby-de-la-Zouch, Leicestershire; Peckham, Camberwell; Carlton Hill, Wells, Somersetshire; Barking Side, Essex; and Upper Gornal, in the parish of Sedgley, Staffordshire. In addition to the above, conditional grants have been made by the Commissioners in aid of building thirty-two churches and chapels, including two

in the parish of St. Margaret, Westminster; one at Paddington; one at Upper Chelsea; one in the parish of St. John, Lambeth; another in the parish of St. Mary, ditto; and one in the parish of St. George in the East.

The church erected at Honiton, by Mr. C. Fowler, architect, was consecrated April 24. Its length is 132 feet from north to south, by 58 in breadth, and about 44 in height. The style is Norman, of good character; and there is a tower 144 feet high, upon which it is purposed to erect a spire; and, when it shall be thus completed, the edifice will rank among the best of our modern churches, both as to magnitude and design.

St. John's church, Reading, completed last year, from designs by Mr. R. Ebbels, and erected at the sole expense of the Rev. N. Trench, has a front of Bath stone, somewhat similar to that of King's College Chapel, with perforated battlements, and a handsome west window. The same architect has also erected, at the sole expense of another individual (John Hambrough, Esq.), a church and parsonage-house at St. Catherine's, Ventnor, Isle of Wight. The church at Trowbridge, Wilts, by Mr. F. A. Livesay, of Portsmouth, is a stone structure in the early English style, with a vaulted roof. The plan is cruciform, with a tower over the south transept; and the internal dimensions are 109 feet from east to west, by 96 through the transept. The church at Newtown, Hants, by the same architect (consecrated November 1st, 1837), though inconsiderable as to size, is said to be one of more than ordinary merit for its architecture, and for the beauty of its east window. The church at Headingley, Leeds, Yorkshire, by R. D. Chantrell, architect, is in the Perpendicular or later English style, with a tower at the west end, surmounted by an octagon belfry and spire. The dimensions are 66 × 27, chancel 22 × 20, and transepts 20 × 18. Skipton church, by the same architect, is 72 feet by 52. It has side-aisles and a clerestory; and there is an ascent of five steps up to the chancel. The new church at Goring, near Worthing, erected on the site of the former one, by Mr. Decimus Burton, has the merit of being in a style of sobriety, presenting a happy medium between that shabby parsimoniousness and that overstrained pretension, which, not unfrequently combined in the same building, are the besetting sins of our present church-architecture.

The church at Staley Bridge, Cheshire (the first stone of which was laid February 2nd), will be in the style of the latter part of the 13th century. The tower at the west end is in four stages or compartments, the lowermost of which has a bold recessed doorway, while the uppermost has two narrow lancet belfry-windows on each of its sides, with octagonal turrets at its angles. Of this building Mr. R. Tattersall, of Manchester, is the architect; and it is expected to be finished in the course of next spring.

In the Tenter-ground, Whitechapel, a church is now in progress, from the designs of Messrs. Wyatt and Brandon, in the early Pointed style. Another, also in that style, but of more than average quality, and spiritedly treated, is building at Blackheath,

by Mr. J. W. Wild. This edifice, the first stone of which was laid by H.R.H. the Princess Sophia, July 18, will have two towers, surmounted by spires, at its east end; and, if erected according to the design, will present some rather unusual and happy combinations, and far more of effect than they seem to have been aimed at. Wendover church is undergoing very extensive alterations by Mr. E. B. Lamb, one of which will consist in opening the lower part of the tower to the body of the structure.

On October 1st the foundation-stone was formally laid of the Episcopal Palace for the newly-constituted see of Ripon; and, should we ascertain it to be deserving of notice for its architecture, we hope to be able to give a particular account of it in our next volume.

The chapel at the Catholic College, Oscott, Staffordshire, consecrated May 29th, was built by Mr. Potter, of Lichfield, and is remarkable for the richness of its interior decorations, executed under the superintendence of Mr. A. W. Pugin. The altar is adorned with a profusion of gilding, and with panels containing paintings, and the windows around it are of stained glass by Warrington. The pulpit is of white stone, carved, and relieved by gilding.

There are one or two other buildings, which, although considerably advanced, are as yet quite in the rough. Such is the case with the church now erecting on the west side of Berwick-street, from designs by Mr. Blore: as it is enclosed by the adjoining houses only one side of it will be visible; yet, notwithstanding that it will present only a single uniform elevation, consisting chiefly of six large windows, it promises to be a by far better specimen of Gothic than any of the churches lately erected in that style. Though by no means affecting richness, the details are of excellent character, whereas most new structures of the same class offend by extreme insipidity and meagreness of manner, coupled with an affectation of display they by no means admit of. Were it not for something of this littleness and meagreness, the small church, or perhaps chapel (for it has no tower or belfry), in Upper Stamford-street, would be a decent specimen of the lancet style. Two other churches, mentioned in our last volume as having been then begun, are now completed. Of that in West Harding-street, Fetter-lane, the only part that makes any pretensions at all to design, namely, the tower, is placed so as to be quite out of sight, excepting from the narrow alley in which it stands. That by Mr. Pennathorne in Gray's-inn-road, has, on the contrary, something rather happy and pleasing in its façade, which, though sparingly, is consistently decorated, and marked by unity of expression and design. It requires, however, to be viewed *en face*, for the side elevations greatly disturb the effect of the front; it would therefore have been, though a very small alteration, a very great improvement, had the curved screen walls, which enclose the steps and bronzed railings, been carried up to the level of the string-course, in continuation of the impost of the arch, within which the centre door is placed; for by that means

the lower windows of the sides would have been effectually concealed.

Synagogue, Great St. Helen's.—Situated at the rear of the houses in Crosby-square, from which it is approached through a narrow covered passage, this building is quite secluded from view, but has nevertheless a regular façade, forming its northern extremity. This, which is the only part visible of the outside, forms a composition in the Italian style, divided into two stories and three compartments horizontally. In the centre one is an open loggia of three arches, resting upon coupled columns of the Tuscan order, and above are five large arched windows, which are those of an apartment (42 × 21 feet) used as a committee-room or vestry. This portion of the front is crowned by a bold block cornice of Portland stone. Within the loggia are three doors, opening into an inner vestibule or rather corridor, carried transversely to the body of the interior, and having the gallery staircases at the extremities. Facing the doors from the loggia are others that lead immediately into the synagogue; the *coup d'œil* of which is not a little striking and attractive, not only on account of its proportions and air of spaciousness, but also its general elegance, and, in some respects, novelty of design. As a piece of interior architecture it is highly creditable to the talents and taste of Mr. J. Davies, who has here distinguished himself most advantageously; for it quite eclipses every one of our modern churches that have any pretensions to be brought into comparison with it, although it may fall short of one or two of them in its dimensions. One circumstance highly favourable to architectural effect is, that the area is not blocked up as our churches are with pewing, the seats in the lower part being almost confined to the space beneath the side-galleries, beyond which they extend only three or four feet, leaving all the rest of the floor, between the ark at the south end and the platform at the north, quite unencumbered. Even these seats are not enclosed like pews, but are separated from the nave (if it may so be called) by merely a low parapet. Another thing, equally favourable in regard to architectural effect, is, that the seats of the galleries are quite concealed from view, instead of showing themselves as they do in some of our churches, rising steeply one above another, like those in a play-house. From these remarks, touching some favourable peculiarities of arrangement, we now proceed to description.

The total length from north to south, including the recess or ark at the south end, is 72 feet, and the extreme width 54, or between the fronts of the galleries 32; while the extreme height is 45. The elevations of the sides consist of two orders, presenting five inter-columns above and below, that is, four columns and two pilasters at the extremities. The lower order may be termed Doric, having an entablature of that character; but the pillars or piers which support it are quite novel in design, and therefore not easy to be clearly described. The upper columns are Corinthian, and behind them are seen five windows, which deserve to be particularly mentioned on account of the architectural finish

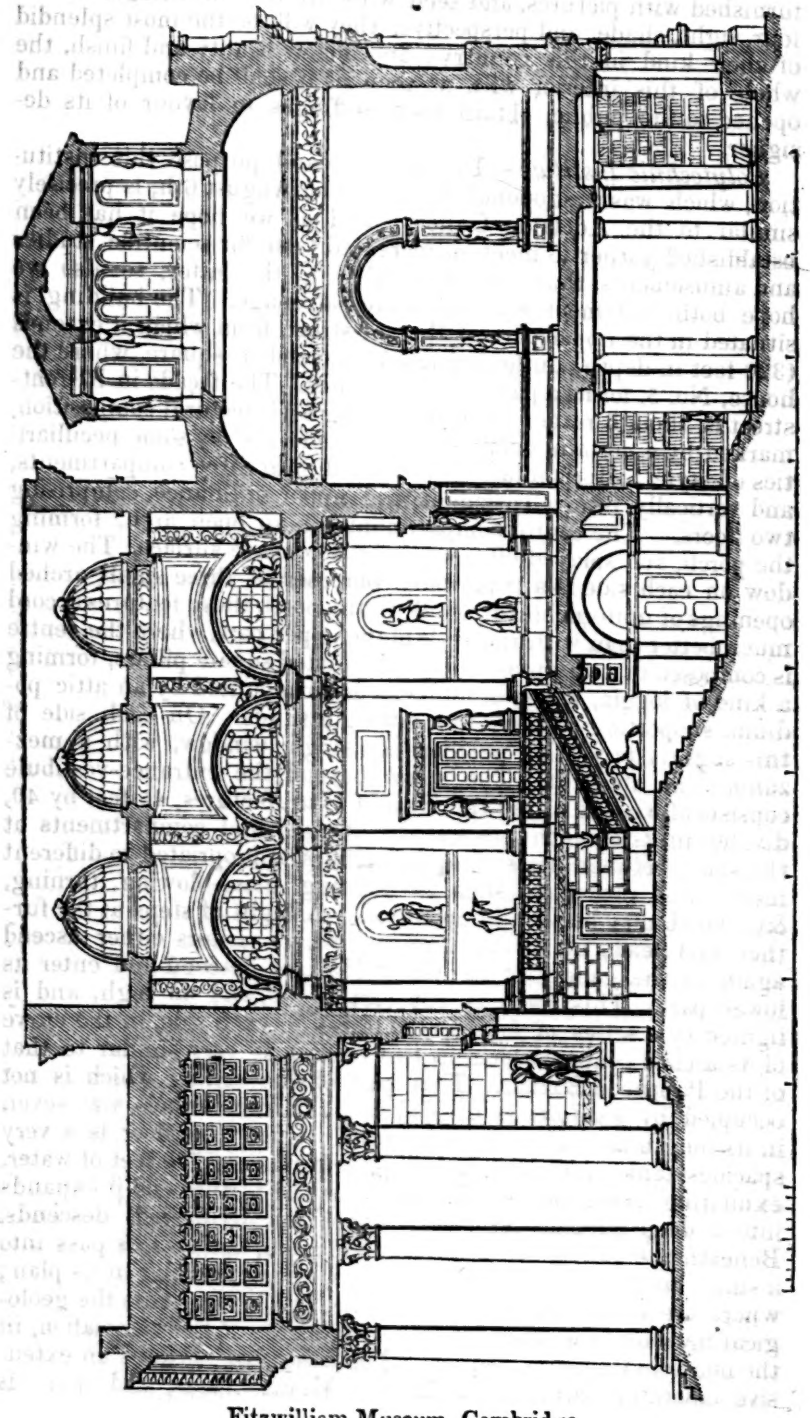
bestowed on them; in consequence of which, instead of being mere gaps in the wall, and so many blemishes in the design, they contribute very materially to its unity and consistency, and it is to be hoped that the example here set will be followed in our modern churches, when the Gothic style is not adapted for them. There is, likewise, another series of smaller semicircular windows, between the cornice of the upper order and the ceiling, answering to a clerestory. All these windows are glazed with ground glass, with coloured borders, which, if we except the gilded metal-work standing on the lower entablature, that serves as the real parapet to the galleries, is the only colouring in these side-elevations of the interior; although some greater degree of it might have been extended to them without at all interfering with the effect of the ark, or rather so as to have prevented the too decided contrast observable between that richly-coloured recess and the monotonous hue of all the rest. Even a uniform pale neutral tint on the walls would have greatly relieved the columns and the dressings of the windows.

We now come to the elevation of the south end between the galleries, which is entirely occupied by the ark, a semicircular recess, about 25 feet in diameter, of lofty proportions, and covered by a semi-dome. This also consists of two orders, viz., an Italian Doric in pilasters, whose shafts are painted in imitation of verde antico on a porphyry ground, and the mouldings of their capitals and entablature relieved by gilding; and a Corinthian one, with columns resembling Sienna marble, and capitals and entablature in white and gold. It consists of eight columns, viz., four in front, disposed in pairs (one on each side of the opening), and backed by pilasters, and four others within the recess, enclosed within two pilasters, grouped with the first-mentioned ones, and forming the reveals to the opening of the ark. In the three upper inter-columns thus produced are as many arched windows, entirely filled with stained glass of very rich arabesque pattern. These windows, which add so much splendour to this otherwise very rich architectural composition, were designed and executed by Mr. James Nixon; and the centre one has the name of Jehovah, in Hebrew characters, and the tables of the law. The semi-dome is coffered with octagonal caissons, filled in with gilded rosettes on an azure ground. There is a great deal of other decoration, including rich festoons of fruit and flowers between the capitals of the Corinthian columns, and ornaments on the frieze of the same order, on which is inscribed, in Hebrew characters, the following sentence:—"Know in whose presence thou standest." The centre of the lower part is fitted up with the recesses for the books of the law, which are enclosed with elegant doors of solid and beautifully-polished mahogany, partly concealed by a rich velvet curtain, fringed with gold. There are likewise massive gilded candelabra; nor is the pavement at all inferior to the other parts, it being entirely of fine veined Italian marble, though partly concealed by rich carpeting. This ark is not enclosed like the altars of our churches by any railing, but is elevated from the rest of the floor

by two steps, which, advancing forward semicircularly, cause the marble pavement of the recess to present a complete circle in its plan. Externally of the ark is an arched panel on each side, on the level of the galleries; that on the dexter, or east, containing a prayer for the Queen and Royal Family, in Hebrew—and the other a similar one, in English. Above the ark there is a rich fan-window of painted glass, and a corresponding one, though less brilliantly coloured, at the north end. This latter is comparatively plain, being chiefly distinguished by the platform, which is raised four steps above the level of the floor, and enclosed by a low parapet, on the pedestals of which are placed candelabra similar to those within the ark. The ceiling, which is flat, contributes not a little to the general richness of the *ensemble;* its centre part being decorated with thirty coffers, each of which contains a large flower, serving to conceal an aperture for ventilation. It must be confessed that the floor is not at all in accordance with the rest, for it is only of common boards; whereas, had it been of asphalt, coloured to resemble an inlaid pavement (as in the Rotunda of the Bank), it would have been a very great improvement to what is, upon the whole, the most beautiful interior of the kind in town.

2.—Buildings connected with Art, Science, and Education.

Cambridge—The Fitzwilliam Museum.—Referring to our last volume for the description there given of this elegant edifice, we now introduce a section of it through the centre from east to west; which, due allowance being made for a mode of engraving incapable of doing justice to the delicacy of the original drawing, will, unless we greatly mistake, be allowed to be a more than usually interesting subject, and to convey a satisfactory idea of the style of the interior, as far as is here shown. The hall (the upper part of which, on the level of the principal floor, serves also as a sculpture-gallery) is an exceedingly happy specimen of Italian architecture—one fraught with much originality, and retaining the playfulness and richness of the style, without any of its capriciousness or uncouthness. It is in every respect admirably arranged for effect, and so as to produce a very imposing *coup d'œil* on entering, notwithstanding the spaciousness and decorated character of the portico. One thing that might at first appear to have been ojectionable has here been turned to admirable account by the architect, namely, the library-floor being considerably below the level of the hall. The latter is lighted by three dome skylights, and by three richly-ornamented windows, above the entablature on the north and south sides. The three doors in the gallery are rendered exceeding important features in the design, owing to the amplitude given to the door-cases by the caryatides which support their entablatures. The open archway seen in the other room, which is one of those for pictures, is also much embellished, and possesses much elegance of proportion and design, to which the small statues placed upon pedestals will contribute in no small degree. The frieze beneath the cove of the ceiling is a copy from the Elgin marbles. The lanterns will be highly ornamental, and when these rooms shall be



Fitzwilliam Museum, Cambridge.

furnished with pictures, and seen with all the advantages of colour, light, shade, and perspective, they will be the most splendid of their kind in this country; and, for its beauty and finish, the whole of this interior will, as soon as it shall be completed and opened to the public, obtain their suffrages in favour of its designer.

Polytechnic Institute.—In its nature and purpose this institution, which was first opened to the public August 6th, is precisely similar to the Adelaide Gallery; and, as we hope it has been established rather to meet an increased taste for scientific studies and amusements, than out of hostility to the latter, so also we hope both will meet with adequate patronage. The building is situated in the upper part of Regent-street, from which it extends (320 feet in depth) quite through to Cavendish-square, where the house, No. 5, forms a part of the premises. The façade in Regent-street is, though rather small, a pleasing architectural composition, marked by a certain boldness of character and by some peculiarities of style. Horizontally it is divided into three compartments, and vertically into a basement and upper ordinance, comprising two floors. The centre compartment has an open arch, forming the porch, and splayed off inwards by a concave surface. The window on each side is a triple one, composed of three small arched openings of uniform breadth. With the porch these features accord much better than with the style of the upper part, where the centre is composed of two antæ and two insulated square pillars, forming a kind of loggia, whose entablature is surmounted by an attic podium, supporting a statue in a sitting attitude. On each side of this slightly-projecting pavilion is a single window, with a mezzanine one above it. The space beyond the entrance-vestibule consists of what is called the Hall of Manufactures, 45 feet by 40, divided in its breadth into a centre avenue, and compartments at the sides, between massive square pillars, appropriated to different mechanical processes, such as printing, glass-blowing, turning, &c., which may be seen in operation. A flight of steps at the further end leads up to the staircase, where visitors either ascend again to the gallery of the Great Hall, or descend and enter its lower part. This room is 120 feet by 40, and 40 high, and is lighted by a series of fourteen windows on each side, in the curve of its arched ceiling, which, in this respect, is very similar to that of the Pantheon Bazaar. That part of the ceiling which is not occupied by windows is divided into 21 large pannels, viz., seven in its length and three in its breadth. Upon the floor is a very spacious tank or canal, presenting a surface of 700 feet of water, exhibiting locks, water-wheels, &c.; at the further end it expands into a deep circular reservoir, where the diving-bell descends. Beneath the gallery, at this end of the room, the visitors pass into a small but tasteful vestibule or recess, nearly circular in its plan; where are several busts and two doors, one leading into the geological museum, the other into the apartments of the association, in the house in Cavendish-square. The basement contains an extensive laboratory beneath the Hall of Manufactures, and there is

likewise an exceedingly commodious and rather spacious theatre over the last-mentioned part of the building. The ascent to this is by the principal staircase, which, although not very spacious, is very pleasingly arranged, and exhibits some novelty of detail in the cornice of the upper part.

Eastern Institution, Commercial-road.—Messrs. Hopkins and Gray, the architects, have here produced a very commodious structure, and one which, although sparingly embellished externally, possesses some degree of dignity. The south end or front retires a little distance from the road, and consists chiefly of a Doric tetrastyle, with fluted columns; there being no windows either within or externally of the portico, which circumstance is in itself favourable to the style adopted for the façade, and stamps it as a public building. The general plan is a parallelogram, about one-half of which is occupied by the great room at the rear or north end. This apartment, which measures 80 feet by 50, and is 36 high, has a segmental arched ceiling, and the wall at the farther end forms a similar curve. It is lighted by a single range of five windows on each side, placed at a considerable height from the floor, and dressed with architraves and cornices. But, independently of this degree of architectural decoration, the trusses which support the ceiling, and the enrichments of the last-mentioned part, the whole is quite bare, owing to its being at present in an unfinished state, and without any colour whatever to relieve its monotonousness and blankness. On this account, likewise, the two splendid chandeliers with gas-burners, which are of wood richly carved and gilt, now form too great a contrast with all the rest. Probably some gilding will be applied to the ceiling, and, were it also to be extended to the chambranles, or dressings of the windows, it would tend greatly to architectural keeping as well as embellishment. In fact, the room requires only to be judiciously coloured and decorated to become a very striking one; its dimensions being noble, and it being admirably fitted in itself to receive embellishment from the pencil, whether of colouring alone or of design likewise, especially the curved end, in front of which is the orchestra. As a concert-room it is said to be unrivalled, and to be allowed by all the professionalists who have attended the musical performances that have from time to time been given in it to be most admirably contrived for sound—indeed, to be superior in that respect to any other concert-room in the metropolis. The benches have handsome stuffed cushions and mahogany backs, both which can be removed, so that, when the room is required for public meetings, or similar purposes, the seats are transformed into mere forms, which cannot be damaged by persons stepping over them or standing upon them. Whenever the room comes to be decorated, some additional dressings and embellishments ought to be bestowed upon the door, in order to give it that architectural importance which will make it accord with the size and character of the apartment.

3.—Cemeteries.

Highgate Cemetery.—Occupying one of the loveliest and most pleasant sites in the vicinity of the metropolis, and decorated by a profusion of flowers, and by showy bits of architecture, whatever may be its charms, this place has certainly nothing of that solemnity which its purpose seems to call for. To the gaiety arising from the natural beauties of scenery and prospect it might seem like churlish hypercriticism to make any objection; but, instead of any attempt to subdue it, we perceive that pains have been studiously taken to render it prominent. The southern entrance, in Swain's-lane—from which point the ground rises in a rather steep ascent to the northern terrace, immediately beneath the new church—is in a style, compounded of Gothic of all periods, and is, withal, a medley, without that sobriety, if not solemnity, which ought to have characterised it. Small in itself, it has been rendered a mass of littleness, owing to its having pigmy windows in the panels of buttresses, and to its roof being bristled all over with pinnacles. As an eye-trap it is excellent, it being impossible to pass by it without wonder. For what are called the catacombs, the Egyptian style has been selected. The approach to these is through a sort of arched avenue, whose entrance is flanked by two obelisks. This crypt-like passage, which is in the upper part of the grounds, is lined on each side by a range of sepulchral chambers, and leads into another avenue, forming a ring or circular walk between similar sepulchral chambers, each of which has its Egyptian doorway. These sepulchres (each of which is capable of containing several tiers of coffins on three of its sides), amounting altogether to forty-six, besides eighteen others in the first-mentioned avenue, form as many sides of two polygons, an outer and inner one.

Midway, or corresponding with the entrance from the lower grounds, is an ascent, first by a single flight of steps, and then by others on each side, to a terrace which overlooks the catacombs, and from which they present a striking appearance, the summit of the inner polygon being covered with earth, and having a large cedar planted in its centre. The back wall of this terrace is formed by a range of building in a semi-Gothic style, crowned by a fancy open-work parapet, placed before another terrace that is immediately under the south end of the Gothic church, erected some few years ago by Mr. Vulliamy. Along the east side of this church is a lane, forming the north entrance into the cemetery. The prospect from this upper terrace is exceedingly beautiful.

Norwood Cemetery.—The site occupies about forty acres, chiefly on the north and north-west declivities of a hill to the east of St. Luke's church, near which is the entrance into the grounds of the cemetery. Had there been here a gateway instead of a mere open arch, the character of the design would have been greatly better, there being no wall requiring such aperture through it; and so far the entrance to the Highgate Cemetery is preferable in plan, although this gate, with the lodge adjoining it, are in much better taste

than the other. There are two chapels; one for members of the Church of England, the other for Dissenters. The former of these is about 70 feet by 32, the latter 60 by 30; though varying somewhat in design, they are nearly similar in their style, which is a sober but correct Gothic. The chief fault is their tameness of outline, produced by their parapets being quite plain, and without any breaks or markings. The greatest objection of all is the injudicious position of the two buildings with regard to each other; for they ought either to have been placed so far apart as to form two distinct architectural pictures, or else so combined as to form one design; whereas at present they do not group together, or form parts of one general scheme, but appear to have been placed quite accidentally, and almost to have recoiled and wheeled about from each other. Had they been united merely by placing them back to back, having the respective entrances at the opposite ends, considerable effect as to length would have been obtained; while, as something would have been saved by one partition-wall being substituted for two gable-walls, something more could have been afforded for decoration. The one building being somewhat lower and narrower than the other, would have been rather an advantage than the contrary. In regard to accommodation, it may be objected that there is no shelter for hearses and mourning-coaches in bad weather, which is the more to be regretted, because the adjunct of a spacious porch and cloister for such purpose might be rendered a very appropriate distinction to chapels of this description. The architect is Mr. W. Tite.

4—Docks and Canals.

Bute Ship Canal and Docks, Cardiff.—This important work, which has been in progress for several years, is drawing rapidly towards completion. It is generally known that the river Taff, which falls into the sea at the port of Cardiff, forms a principal outlet for the mining-districts which compose the extensive basin of Glamorganshire. The produce of these mines has hitherto found its way into market through the Glamorganshire Canal and Sea-lock, constructed about forty years ago, which has long been found inadequate to meet the demands for increased accommodation consequent upon the extraordinary increase of trade which has taken place since the canal was opened; some idea of which may be formed from the fact that, according to the Canal Company's Report, 123,234 tons of iron and 226,671 tons of coal were sent down in 1837, making a total of 349,905 tons, or above 1100 tons per day.

The Marquis of Bute—possessing the lands in the neighbourhood of Cardiff, and especially an extensive piece of level ground, commonly called "Cardiff Moors," where docks, wharfs, and warehouses might be constructed to an unlimited extent, and a convenient outlet made into the well-known safe roadstead protected by the headland of Penarth—obtained an act in 1830 for constructing a new harbour, &c., to be called the Bute Ship Canal, and has carried on and nearly completed this great work at his sole and

individual expense. The principal features of the undertaking are as follow:—A straight, open channel, about three-fourths of a mile in length, from the middle of Cardiff Roads to the sea gates, which are 45 feet wide, with a depth of 17 feet at high-water neap-tides and 32 feet at springs. On passing the sea-gates, vessels will enter a small basin, having an area of about an acre and a half, called the outer basin, calculated for the accommodation of vessels of great tonnage and steamers. The main entrance-lock is situated at the north end of the outer basin, is 152 feet long and 36 feet wide; being thus sufficient for the admission of ships of from 500 to 600 tons burden. The large sea-gates and outer basin are almost completed, and the lock, with its gates, &c., has been finished for some time.

Beyond the lock is the inner basin, which constitutes the principal feature of this work. It extends in a continuous line from the lock to near the town of Cardiff, 1400 yards in length and 200 feet in width; and, consequently, possessing an area of above 18 acres of water-surface, capable of accommodating 300 vessels of all classes, according to the moderate computation of 17 ships to an acre. Quay-walls are built on each side of the basin for more than two-thirds of its length, finished with a strong granite coping, and comprising in all nearly 6000 feet, or more than a mile, of wharfage, with ample accommodation for warehouses, exclusive of the wharfage of the outer basin, and other conveniences. The dock is now completed and filled with water; and the long, straight lines of quay-walls, and the regular disposition of their wooden defenders, give the whole work a very noble appearance.

For the purpose of keeping the entrance-channel clear of any deposit, which might be formed by the action of the sea on the soft mud-lands surrounding it, a water-course or feeder has been made from the river Taff, leading to a reservoir, 15 acres in extent, adjacent to the basin. The contents of this reservoir will be discharged at low water of every tide by means of apparatus of sluices and iron pipes provided for the purpose, and it is expected will be sufficient to keep the channel effectually open.

There appears every probability of the dock being completed, and open for the admission of ships, about midsummer of 1839.

This work has been executed according to the design of W. Cubitt, Esq., civil engineer, of London; Mr. George Turnbull being the resident engineer.

A small chapel is about to be erected near Cardiff, by the Marquis, from the designs of Mr. B. Ferrey. The style selected is Norman, and the front will have external staircases behind open arches similar to that in the conventual buildings at Canterbury.

5—Miscellaneous Improvements.

In regard to street architecture, much has not been done of late, except that a few parts of the town, such as Oxford and Mortimer-streets, have been improved by old houses having been taken down and handsomely-fronted ones substituted for them. The only place where such improvement has been carried on to

any extent, and according to an uniform plan, is Little Brook-street, nearly the whole south side of which now consists of a regular elevation of seven houses, with shops beneath them. There are neither columns nor pilasters, the chief decoration arising from the windows of the first floor, which are of very good design, and are crowned by angular and carved pediments, not placed alternately but distributed in pairs, so as thereby to distinguish the front of each house. In Moorgate-street, which is not yet quite completed, the curved ends, towards Lothbury, will be decorated with columns. In North Wellington-street nothing has been done, except at the south-east angle, where has been erected what is called D'Oyley's warehouse, which has been rebuilt by Mr. S. Beazley in a rather fanciful style of Italian architecture.

As belonging to the same general class we may here mention the lofty and extensive range of houses on the Bayswater-road, called Hyde Park-terrace. Though greatly better in style than most of the terraces in the Regent's-park, it is too much crowded with windows, and has no features of sufficient importance to relieve the monotony occasioned by uniformity of design being prolonged to such extent.

Some alterations are now going on within the New Palace, where workmen are employed in erecting a new staircase, intended to afford a second approach to the state apartments through the north end of the picture-gallery.

The Royal Institution, Albemarle-street, has been new fronted, according to a design by Mr. Vulliamy; or, rather, the old front has been decorated by putting up 14 fluted half-columns, of the Corinthian order, which occupy the height of the three floors; consequently they are of considerable magnitude, and so far produce an imposing effect; but the dressings of the windows look much too scanty in comparison with them.

In this place we may also point out the new front of the City of London Institution, Aldersgate-street, which, although a mere narrow strip, filling up the gap that used to be between the houses adjoining it, is an improvement to the street and a pleasing bit of design; and the buildings in Mincing-lane, adjoining to, and, we believe, forming an addition to, the Commercial Sale Rooms, although very different in style, being a piece of Italian composition, stamped by some clever originality. It has three arches in the basement, two of them filled with windows, the other forming a covered passage which leads into Mark-lane. The upper floor has four panelled pilasters, with capitals of bold and somewhat novel design, and between them are three arched windows, with effective stone dressings; or rather two windows and a blank one in the centre intercolumn.

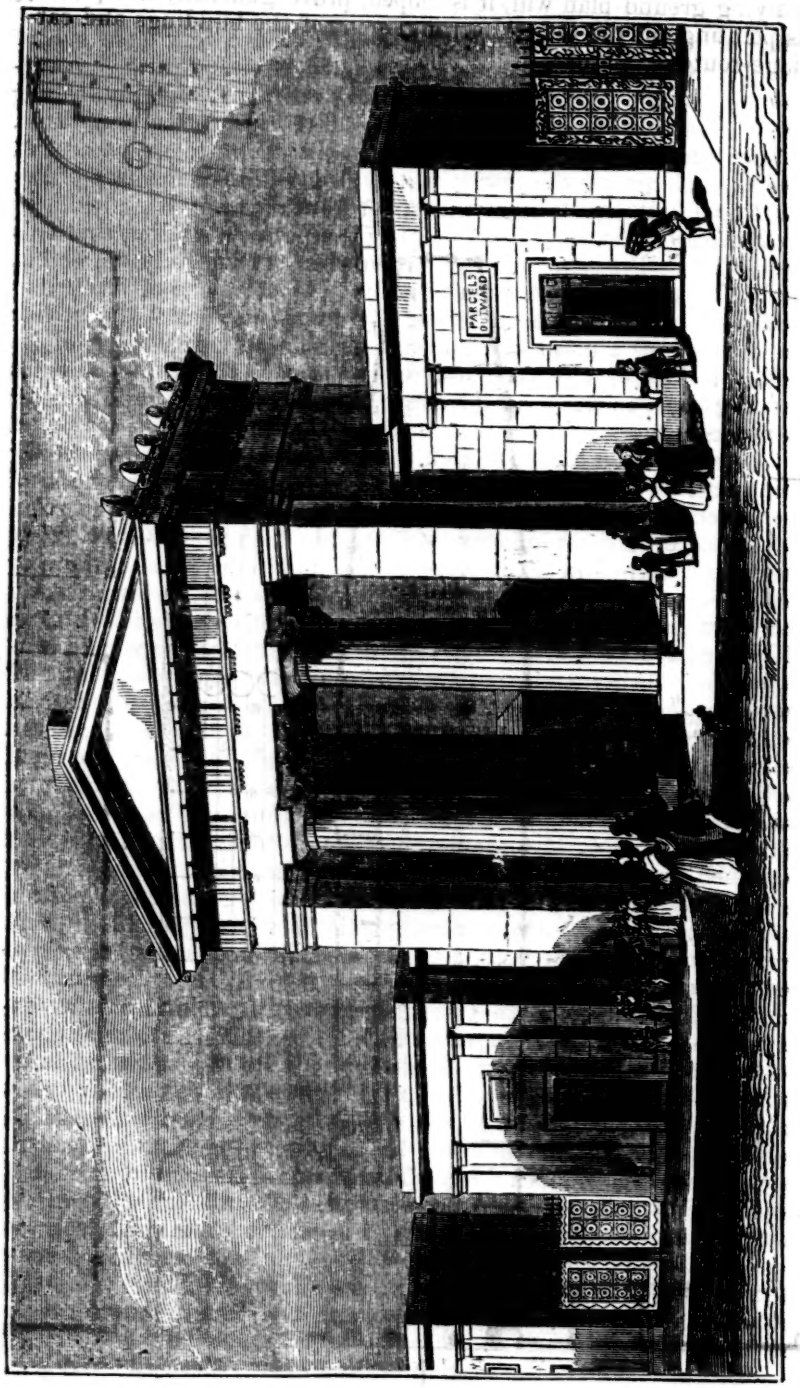
The Bank of England is now undergoing a course of refreshening and repainting in the principal parts of the interior. The Rotunda has assumed almost another character from what it used to have, for it will henceforth be used only as a corridor—a passage around it, about five feet wide, having been portioned off by a low metal railing, and the whole of the inner area or circle surrounded

by it has been paved with asphaltum, in imitation of an inlaid floor of black and white marble, so as to form a very large star of elegant pattern, the sixteen points of which extend to the circumference of the circle. The adjoining vestibule, communicating with Bartholomew-lane, has also been completely renovated. Other improvements and alterations are about to be proceeded with; and, among the rest, it is intended to raise the ceiling of the principal hall, and to light that room from above.

Railway Terminus, Euston-square.—Notwithstanding that this noble Doric Propylæum was mentioned in our last volume, we not only notice it again, but make it the subject of one of our cuts; for, although it has been frequently represented already, it has either been as a mere perspective elevation, in which much of its effect is lost, or else very incorrectly—windows that do not exist having been, in one case, introduced into a view of it, besides other strange licenses being taken.

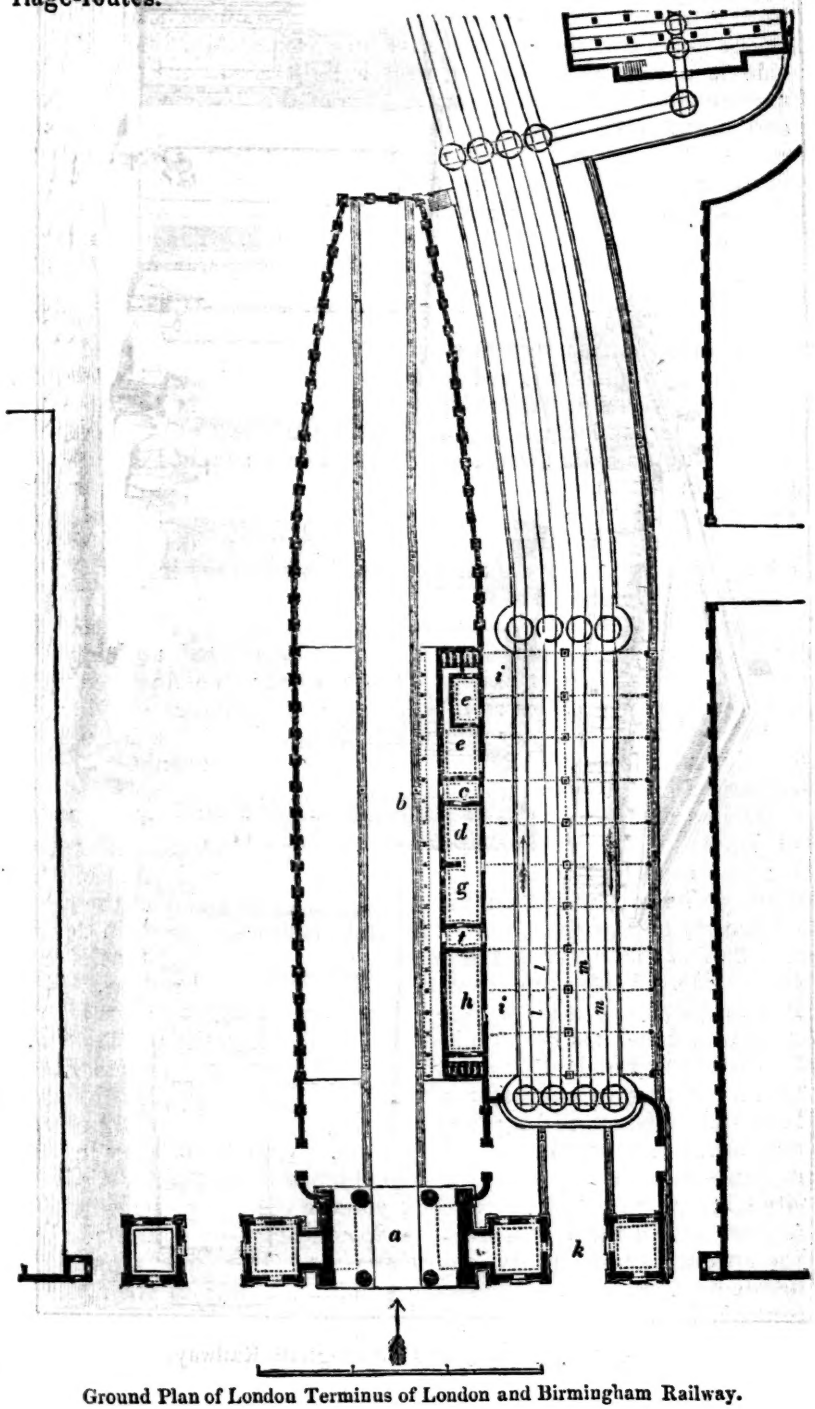
As a specimen of Greek architecture, this structure has not only the merit of being upon a grander scale than anything of the kind yet attempted in this country, but also free from any adulteration of the style by the admixture of features which, however well they may be designed in themselves, almost invariably detract more or less from classicality of design. Here there was, fortunately, no occasion for having sash-windows peep out between Doric columns. Neither have we a severe Doric portico, correct, perhaps, and unexceptionable in itself, yet tacked to a building of different and modern physiognomy, and to which it is merely an adjunct and an expletive. On the contrary, the Grecian outline is preserved entire; on which account the structure exhibits itself to most advantage when viewed obliquely, so as to show its line of roof and depth, especially as the cornice is of unusually bold and new design, being not only ornamented with projecting lion heads, but crowned by a series of deep antefixæ; while, when beheld from a greater distance, the large stone slabs are also seen that cover the roof. In respect to the several particulars just pointed out, and which can merely be indicated in a small woodcut, where those details are in shadow, this building is, if not original, at least unprecedented in our modern Greek architecture. Neither is it disgraced by any of that trumpery which is often suffered to impoverish what would otherwise be a fair design. Were the pediment to be filled with sculpture, the effect would be greatly enhanced; yet it is, perhaps, too much to expect that such decoration will ever be added, and, upon the whole, we have reason to be satisfied that so much has actually been done. The bronze gates are in excellent style, and contribute considerable richness of character to the whole range of building; and one thing in regard to them that deserves to be noticed is, that those in the centre entrance are placed, contrary to what is usually done, *behind* the columns—whereby, instead of at all disfiguring or interfering with the latter, they serve to relieve them very forcibly.

The dimensions of the centre building are 70 feet by 44 in depth, and the extent of the entire line of frontage 320 feet. The accom-



Entrance to London and Birmingham Railway.

panying ground-plan will, it is hoped, prove generally acceptable, as pointing out the general arrangement of the buildings and carriage-routes.



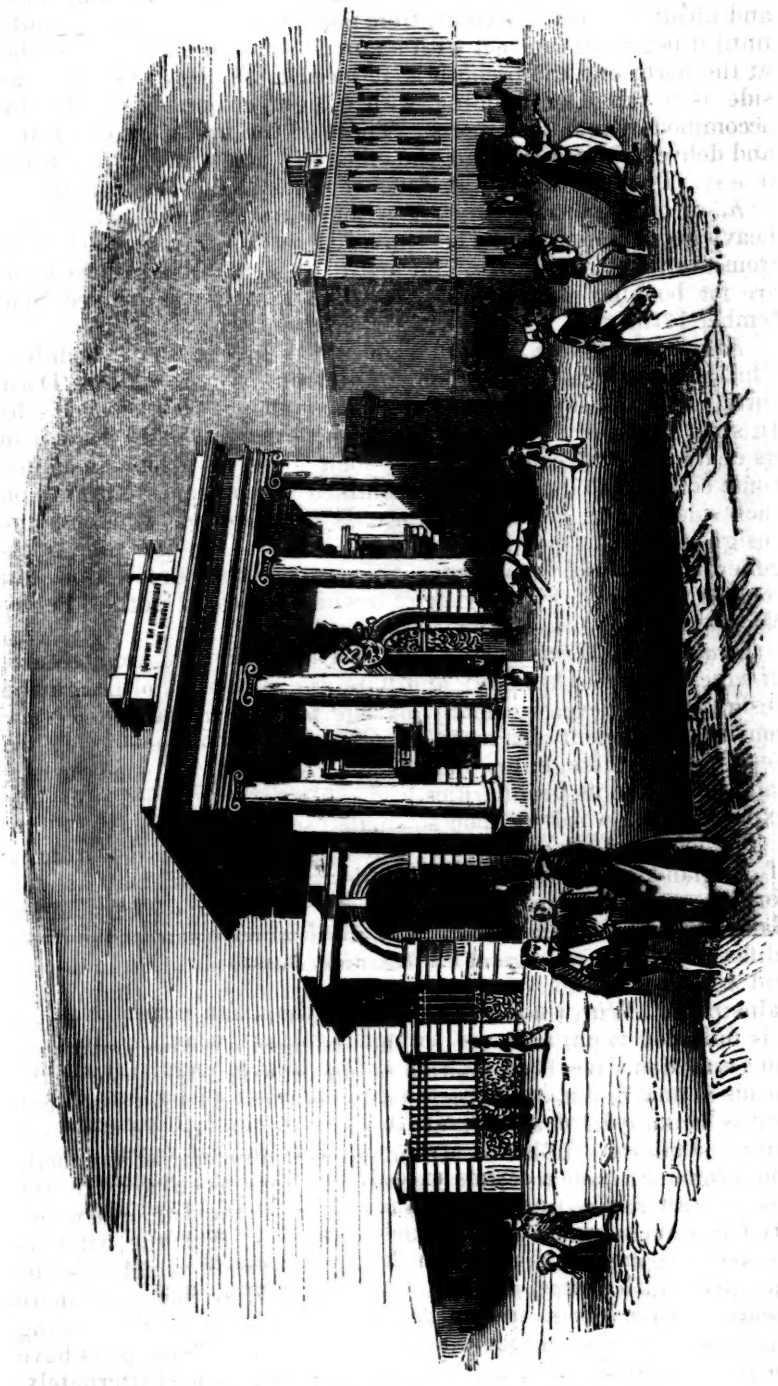
Ground Plan of London Terminus of London and Birmingham Railway.

The entrance (*a*) leads into an oblong court-yard, inclosed by walls, and about 470 feet in extent, from north to south, by 100 in width, until it begins to contract with a curved slope on each side, so that at the north end the breadth is reduced to 38 feet. On the east side is a range of building, with a light colonnade (*b*), for the accommodation of passengers. Those of the first class enter at *c*, and deliver their tickets in the office (*d*), and wait for the trains in *e e*. The others enter at *f*, deliver their tickets in *g*, and wait in *h*, or on the terrace *i i*. *K* is the entrance for carriages and heavy goods intended to be conveyed by the trains, which start from town on the rails *l l*, and arrive by *m m*. The offices (*n n*) are for booking passengers, &c. The railway was opened September 17th.

The Birmingham Terminus, designed by the same architect, Phil. Hardwick, is nearly of similar dimensions in front as the Doric portal in Euston-square, but deeper, being about 70 feet on each side. In style it varies considerably from the other, it being Italian in its character, and consisting of a solid mass, with four insulated Ionic columns to its façade, and flanked by an arched entrance on each side. The central entrance is also arched, whereby the design acquires a pleasing degree of unity. A better idea of its general form and appearance than any verbal description can convey is afforded by the view of it which appeared in the 'Penny Magazine,' No. 414, and which is here inserted:—

London and Westminster Bank.—Of this piece of architecture, in which Messrs. Cockerell and Tite are associated, although the design, we believe, is chiefly by the former, the annexed view conveys a sufficient idea as to general composition and style; we need not, therefore, enter into much description, but shall merely call attention to its peculiarities, and explain what cannot be clearly expressed in a woodcut upon so small a scale.

The locality is also clearly indicated by the portion of the Bank of England, viz., its north-east angle, which shows itself at one corner; consequently it is seen that the London and Westminster Bank has a south aspect, and faces the Lothbury side of the other edifice. It has a frontage of 79 feet, and is upwards of 90 in depth, and 38 feet to the top of the principal cornice, or 55 to that of the balustrade. With the exception of the ornamental railing, which it is intended to put up to protect the basement windows, but which, not being done, has been omitted in our drawing, the whole of the façade is now finished, and may fairly be allowed to possess much that is striking in character, although it derives no aid from columns or pilasters, and to present a happy combination of simplicity and ornament, solidity and decoration. One peculiarity in the design—wherein it bears some resemblance to the Junior University Club, represented in our last volume—is, that the windows are set within compartments, the spaces between which assume the appearance of slightly projecting piers. Here they show more decidedly than in the Pall-mall building, owing to their being continued the height of both the principal floors. These piers have horizontal rustics, in courses of unequal breadth, placed alternately.



Birmingham Terminus of the London and Birmingham Railway.

London and Westminster Bank.

The ground-floor windows are broader than the upper ones, but are different from what are termed Venetian, whether arched in the centre or not—their divisions being formed merely by slender, bronzed, metal standards, partaking somewhat of the form of light candelabra, but, owing to their dark colour, hardly distinguishable at any distance. With this arrangement below, the upper windows have been made, to a certain extent, to accord, and produce novelty while they display ingenuity; the decoration bestowed upon them arising from narrow upright panels along their sides, which correspond with the side divisions of the lower windows. These panels are filled with fasces, and other symbolic ornaments, in very low relief, and produce a striking effect in the building; to which it is impossible to do justice in a small drawing, where they can be barely indicated. The entablature breaks over the extreme piers, which project beyond the general face of the building, and are

surmounted by two female figures in a sitting attitude—that at the east end representing the city of London, and the other the city of Westminster. These statues, which were executed by Mr. Nichol, are very important features in the design, owing to their being so happily and conspicuously placed, so as to fill up situations where decoration displays itself with effect, and where they acquire greater prominency in consequence of being relieved by the shadows they throw on the surface behind them. The upper story, or attic, is not the least excellent portion of the composition; for, instead of at all partaking of that insipidity to which that portion of a building is generally abandoned, this specimen is remarkable for vigorous expression and breadth. The style of decoration is here carried on by the spaces between the windows being rusticated, but only to the height of the windows themselves, and with this difference from the lower part, that here there are vertical joints as well as horizontal ones, which not only gives a character of greater finish, but contributes to variety; while the plain surface above the windows serves, in some degree, as a broad zone or entablature to this story of the building. Although subordinate to the other, the cornice to this attic gives expression and dignity to the whole façade.

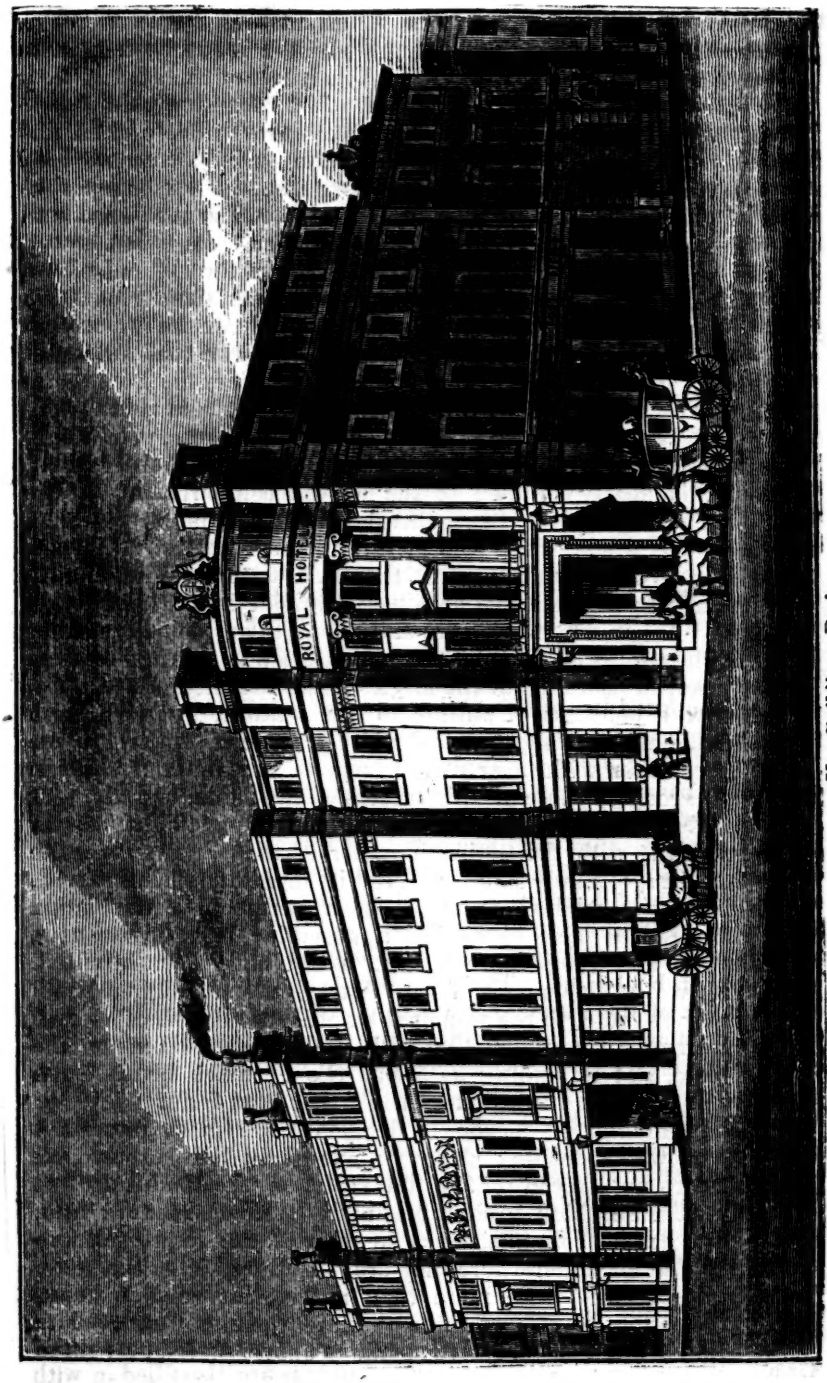
From the entrance, a long corridor, measuring 38 × 13·6′, and flanked on each side by four columns, leads into the principal banking-room, or "town bank," which is 34×50 and 59·6 high. It may, however, be described as being thirty-four feet square; that being the space within the columns on its east and west sides, behind which are the additional spaces, containing staircases to the upper floor. Upon these columns, which are in the Grecian Doric style, plain in their shafts, yet fluted just at their bases and beneath their neckings, rest three arches, on each of the sides mentioned. As these openings do not occupy the entire width of each side, solidity of character is preserved and confusion of plan avoided, while variety is obtained, and the depth of shadow in the recessed parts serves to give great brilliancy to the rest. The most objectionable circumstance is, that the balustrade of the landing of the staircase, which is carried as a gallery behind the columns, cuts against their shafts just below their capitals. Higher up there is a projecting gallery, continued quite around, but entered only from the east and west sides, through three square-headed openings, corresponding with the arched intercolumns below. On this level the angles of the hall are cut off so as to obtain space for a niche. Above these niches spring the pendentives of the dome, or *velum*—the name applied by way of distinction to a spherical roof extended over a square plan. This dome is crowned by a lesser one, through which the light is admitted; and there is also a large semicircular Diocletian window, glazed with heavy hexagonal panes, on the north and west sides, within the arch-heads formed by the pendentives.

Although the walls and dome are quite plain, and there is very little amounting to decoration, excepting the series of lion-heads which stud the facia formed by the inner surface of the opening of

the lesser dome, this hall possesses a very striking degree of character—a most piquant simplicity—a singularly happy combination of the playful and the severe.

The Lesser, or Country Bank, faces the street: on the right hand, or to the east of the entrance, and measures 29·6′ by 23·6′, and 15·9′ high. Over it is the Board-room, which is somewhat more in its dimensions—viz., 45 feet in length, as it comprises the space over the vestibule also, consequently has four windows, one of them being the large one above the entrance. In order, therefore, to symmetrise the plan of the room, it is divided by antæ and pillars into two compartments; the door being placed in that which has the large window, and the fire-place in the other, lighted by the three narrower ones. The front is entirely of Portland stone.

Derby—the Athenæum, Hotel, &c.—This group of buildings, now in progress from the designs of Mr. R. Wallace, will form a very striking improvement to the town, they being situated immediately at the entrance into it from the London road, so as to present two lines of façade—one of 98 feet, towards the Corn Market; the other, 185 feet, towards what is called Brookside. Though apparently only three, there are, in fact, four distinct buildings, the Post Office forming externally a part of that end of the Hotel which adjoins the Derby and Derbyshire Bank. This last-mentioned, which faces the Corn Market, and which may be distinguished in our wood-cut view as being the house on the right hand side, surmounted by ornamental sculpture, is built of Morley Moor stone, and has a frontage of 36 feet, set 5 feet back from the Hotel, that space being given up as the area. The ground-floor forms a rusticated basement, with four openings, viz., three windows and door, all arched, and the former ornamented with carved console keystones; the other with brackets. The first-floor windows have console-jambs, in addition to their architraves and other dressings; while those above have antæ-jambs, whose caps come immediately under the general entablature, which is of Ionic character, with a dentil cornice, carved architrave mouldings, and an inscription on the frieze in bold relief. The elevation is terminated by a conspicuous mass of decoration, composed of Grecian tracery or scroll-work, combined with the shields of the town and county arms, and a caduceus on its apex; which symbolical ornament serves as an acroterium, and gives a happy play and lightness of outline to the whole. Internally, the entrance-hall is separated from the dwelling-house part of the establishment by folding-doors, and has glazed doors of the same kind opening into the banking-office. This is 24 feet square, by 13·6′ high, and is fitted up with wainscot-framed enclosures, having frieze panels with open-work of brass; which, with the mahogany desks and counters, give sufficient finish to the lower part. The ceiling consists of a circle, inscribed within the square cornice formed by a ring-band of Greek ornament, and having in its centre a large flower-shaped Greek boss, 4 feet in diameter: the spandrils are also filled in with enriched panels. From this office extends a corridor leading to



New Buildings, Derby.

the directors and managers' rooms behind, which has a berceau, or semi-cylindrical ceiling, formed in a groin, midway its length, in order to obtain a fan-light window. The whole of the ground-floor is of fire-proof construction—a system of iron-framing being introduced over it, of strength sufficient to carry brick arches and vaultings. Between the front office and the business-rooms behind it is a strong room; and there are likewise several lesser repositories of the same kind over it. Indeed, both convenience and security, as well as elegance, have been studied throughout.

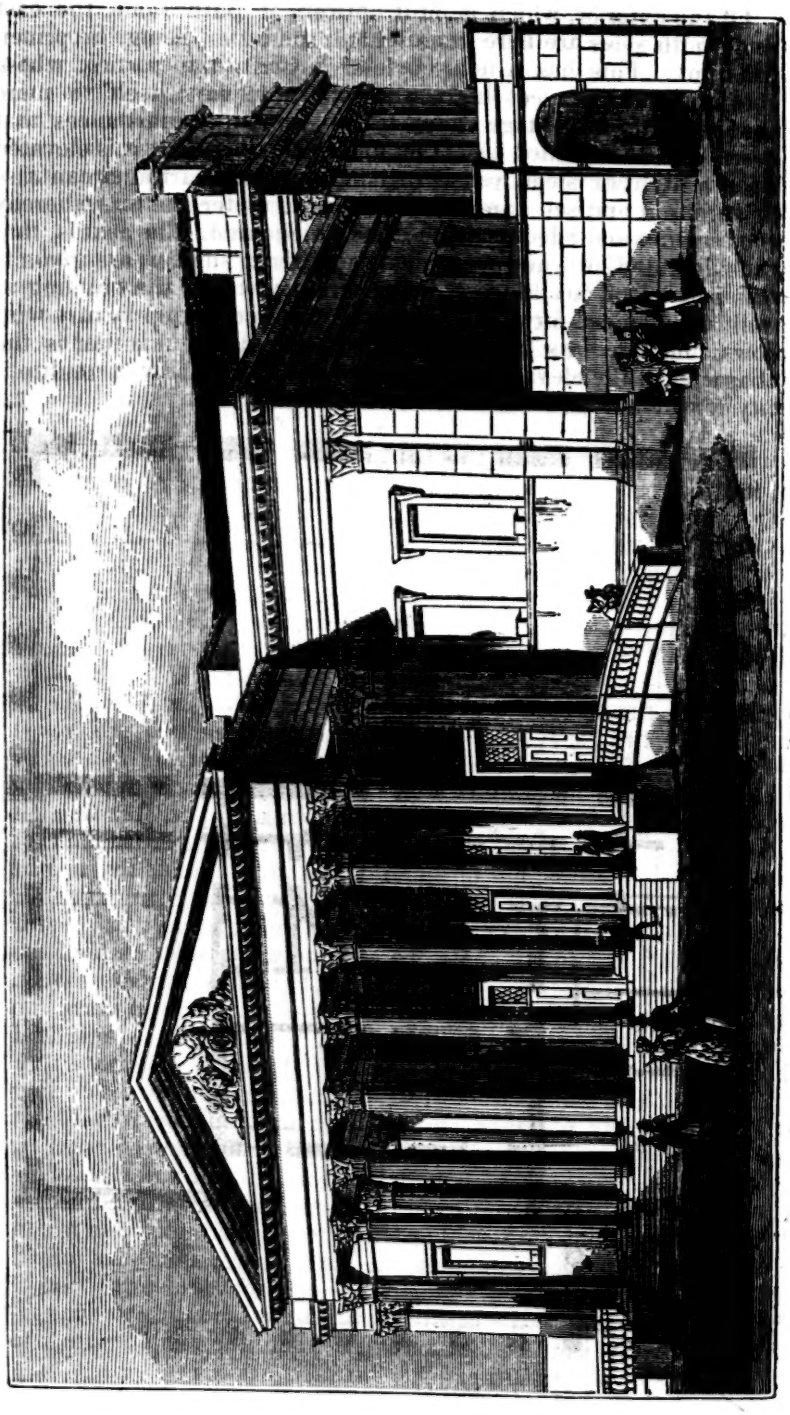
The Hotel, which is at the external angle of the general pile of buildings, occupies the site of what were formerly the Red Lion and White Lion inns; the latter of which adjoined the brook that has now been covered over, and from which the road or street derives its appellation. Including the Post Office, the frontage of the Hotel towards the Corn Market is 62 feet, and, towards Brookside, 98. The style of architecture is Grecian Ionic, comprising two floors within the order above the basement. The order itself, however, is nearly confined to the curved compartment at the angle, which unites the two general elevations, and serves as a centre to the whole, when viewed directly in front and the other parts obliquely. On this account, therefore, it has very judiciously been treated as the principal architectural point in that portion of the mass; a distinction the more suitable as the principal entrance is there placed. This part of the composition is further marked by the grouped pedestals at the angles above the antæ of the attic, which give a boldness of outline to the summit, attended with considerable effect of light and shade. But we observe here one fault, in common with nearly every one of our modern Grecian designs, especially those of this species of the Ionic, namely, that the entablature generally, and the cornice in particular, so far from according with the florid character of the columns, is quite plain and meagre in appearance. Had its mouldings been carved, and a deep and enriched cymatium been placed above the corona of the cornice, the false concord of a masculine, or rather *neuter*, entablature, and *feminine* columns, would have been avoided. The entrance at this angle of the Hotel leads, through a small hexagonal vestibule, to the principal staircase (which is of stone), and to a corridor communicating with the principal rooms on the ground-floor, and extending as far as the entrance beneath the gateway in the nearest pavilion of the Athenæum front.

This last-mentioned façade is decidedly the most important part of the whole design; although, except in being somewhat loftier, it does not exceed that of the Hotel on the same side. It certainly possesses both greater originality and consistency; and, although it has no columns, bears far more of the impress of the style than that elevation where they are introduced. In the view, however, it becomes little more than a secondary object, being seen too remotely to exhibit more than its general forms. The centre compartment has only five openings above, placed over three in the basement (viz., the entrance and window on each side of it),

owing to which a certain piquant contrast is produced, at the same time that the piers below acquire greater solidity. Above the five windows of the upper floor a deep panel is carried the entire length of this centre compartment of the elevation (45 feet), which is intended to be filled with sculpture, by Henning, representing a portion of the Panathenaic Procession, of the same size as the original. Above the entablature here is an attic, or rather small upper order in pilasters, somewhat lower than the corresponding parts terminating the pavilions; of which latter the height is further increased by grouped pedestals at their angles, supporting massive stone tripods, which serve as chimneys to the flues brought up in the piers beneath them. In addition to the variety of outline thus obtained, considerable diversity of expression is produced by the upper part of the pavilions being made to assume somewhat of a loggia character, their windows being set back between square pillars, whereby much force of shadow is obtained. The two larger windows, with the balconies, serve materially to keep up the distinct expression of these compartments, as compared with that of the centre one.

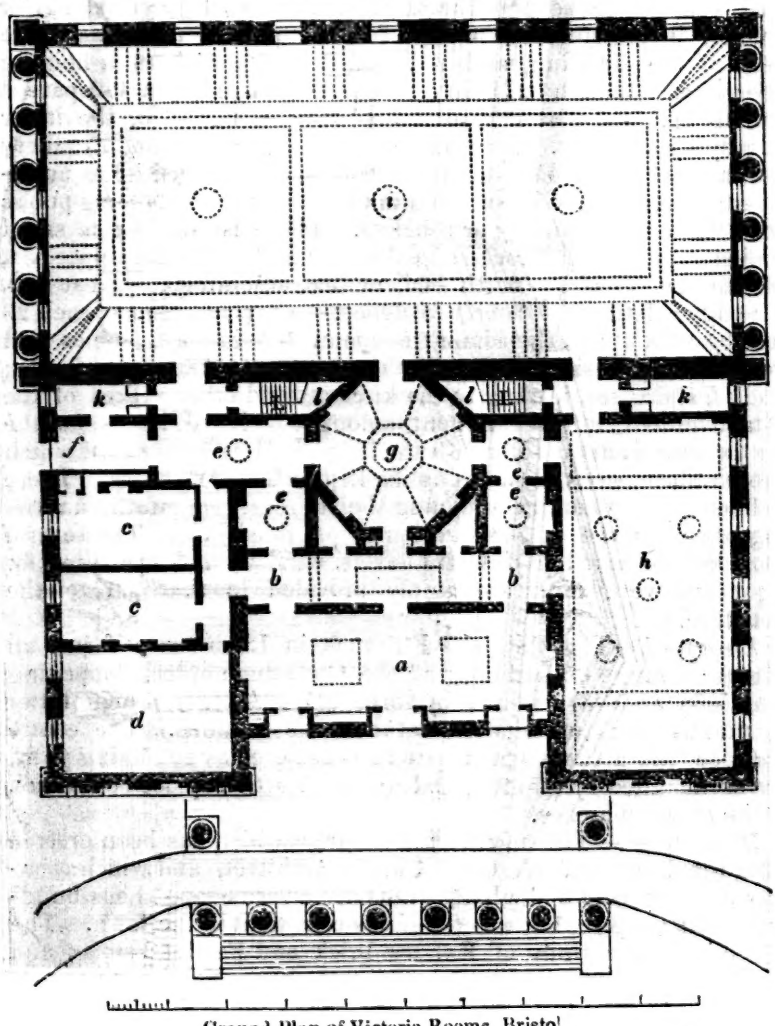
On the ground-floor are two entrance-halls (one in the centre, and the other in the farthest pavilion), a news-room, 30·6′× 19; a library, 35·6′ × 15·9′, with a recess, 15·10′ × 5·9; a lobby, 15·0′ × 8·6′; and a reading-room, 19 × 14. The large upper room, or hall, is 68 × 30·6′, and 23 high. It is entered by folding doors at the west end; and at the other, where the room is extended over the gateway in that pavilion, a division is made in the plan by two Ionic columns, owing to the greater width of the pier between the extreme window and the next one of the other five. Above the doorway is a small music-gallery, supported by boldly projecting consoles, and entered from an upper landing on the staircase. This latter will also lead to a room over the hall, of the same dimensions, but of much lower proportions, its height being only 10·6′. As this room, however, will be fitted up as a museum, its lowness will not be disagreeable, especially as greater height is obtained in the centre portion, between the trusses of the roof, the tie-beams of which form chords to arches turned between the queen-posts, so as to disguise the construction, and carry the height to the level of the collar-beams, where light is admitted through glass panels or coffers, beneath external sky-lights.

Bristol, the Victoria Rooms.—Last year we spoke of a building at Bristol, by Mr. C. Dyer, and we have now an opportunity not only of giving some account but also a plan and view of another, by the same architect, which, both for its magnitude and style of design, would be an ornament even to the metropolis. This edifice,—the first stone of which was laid on the Queen's birth-day, and which is intended to afford accommodation for public assemblies of all kinds, for business as well as festivity,—is situated near the top of Park-street, almost in the centre of the new borough, as constituted by the Reform Act, at an angle where the roads leading to Clifton and Westbury unite.



Victoria Rooms, Bristol.

Of the exterior, which is built entirely of Bath stone, the east and south sides are here represented, the latter being the principal front. This has a noble octo-style Corinthian portico, whose columns are thirty feet high, and which displays itself to more than ordinary advantage owing to one or two circumstances that deserve to be attended to. The first of these is, that it is elevated upon a flight of steps, yet is so contrived that carriages can also drive into it and set down company quite under shelter, whereby convenience and effect have been jointly secured. The next is, that considerable depth, and consequently powerful shadow, are given to this part of the façade by its being recessed within the building as well as advanced forward. Thirdly, it is not cut up by any windows, but presents merely three entrance-doors; neither is the character of the elevations, generally, deteriorated by a multiplicity of windows and different stories of them.



Ground Plan of Victoria Rooms, Bristol.

The doors within the portico open into a vestibule *a*, 52×16 feet, and 22 high, which has a fireplace at each end, and is lighted by two skylights. As many doors on the opposite side lead into a corridor *b*, similarly lighted from above, at the east end of which is the reception-room *h*, which may likewise be used occasionally either as a tea and refreshment room or a lesser concert-room. Yet, though small in comparison with the larger apartment, it is rather spacious, the dimensions being 58 feet by 19. Between the corridor and the great room is an octagonal vestibule or ante-room *g*, of very lofty proportions, its height being 46 feet, or 20 more than its diameter. Owing to this, as well as to its plan, this vestibule gives a considerable degree of variety to the interior of the building, in which it forms a very conspicuous point; while another advantage is, that the great room itself is not entered immediately from the outer vestibule and corridor, and is thereby less exposed to cold and to sound. The grand hall, or saloon, just mentioned, marked *i* in the plan, occupies the whole rear of the building, and is 117 feet by 55, and 48 in height; therefore, although in height it is somewhat less, in its space it greatly exceeds, that of Freemasons' Hall, London, for the latter is only 92×43 feet. At one end there will be an organ-gallery and a platform, either to be used as such or fitted up as an orchestra, accordingly as the room may be required for holding public meetings, or for dinners or concerts. There is likewise a small orchestra placed in a recessed tribune or gallery, in the upper part of the room *h*, at its north end, or that adjoining the great hall. The other letters of reference denote—*c c*, cloak-rooms, each 23 feet by 12 × 6′; *d*, the committee-room, 30×22; *e e*, lobbies and vestibules; *f*, a side entrance in the west front; *k k*, water-closets; and *l l*, staircases, leading to the kitchens and other offices of the establishment, in the basement, among which are rooms for the porter and waiters. Beneath the large hall is a crypt, in which the platform, seats, &c., are to be kept when not in use. There is likewise a mezzanine adjoining the staircase, containing a retiring room for the singers and principal musicians. The several roofs being framed on different levels, windows and apertures for light and ventilation are amply provided in that part of the structure.

Liverpool.—The Railroad Entrance in Lime-street forms an extensive range of buildings of the Corinthian order, comprising four lofty archways united by three *corps de logis*, which latter contain two tiers of windows between the columns. The centre and the two arches, which may be considered as belonging to it, are surmounted by an attic, and a similar attic is placed over each of the extreme arches.

Winchester.—The new Corn Exchange, which has been erected from the designs of Mr. O. B. Carter, architect, and which occupies about an acre and a half, is not only a very commodious building for its purpose, but a considerable ornament to the town. The whole is built entirely of Exbury brick and Portland stone, and the principal front, extending 128 feet, has a Tuscan portico of

the latter material, surmounted by a handsome bell-turret; on each side of this are semicircular windows, and at the extremity a pavilion, with bold rustic quoins and door-way. This front is flanked by iron gates leading into the Cattle-market.

High Cliffe, Hants.—Although this publication does not profess to take any notice of private buildings, an exception may be allowed in favour of so *recherché* a specimen of architecture as is the splendid mansion of Lord Stuart de Rothesay, which, after having been in progress for several years, has now so far advanced towards completion that many of the apartments are fitted up. The style adopted for the exterior is not a little remarkable, being formed upon continental models of domestic Gothic contemporaneous with our English Tudor, and, independently of its novelty in this country, is highly striking for the richness and variety of the details, and the care and precision with which they are wrought. The principal fronts are entirely of stone, and that facing the sea has, in addition to a profusion of other decorations, a parapet *à jour*, or of open work, forming mottoes and inscriptions in Gothic characters. On this side, subordinate ranges of building branch out from the body of the mansion, so as partially to form a kind of court enclosed by three sides of an octagon, whose elevations, although somewhat different in design, all agree in being elaborately enriched. Among other distinguishing features is a magnificent oriel forming an open tribune or balcony-gallery on the level of the upper floor. The north, or other principal front, has a spacious arched carriage-porch, flanked by lofty octagonal turrets, which latter are crowned by ogive dome roofs and finials; and between them is the splendid window and decorated gable which form that end of the entrance-hall. This hall, which is about 60 feet in length by nearly 40 in height, has also a range of windows in the upper part of each of its sides, the wall beneath them being wainscoted and paneled with reliefs in stone. The pavement is inlaid somewhat after the fashion of mosaic, in patterned compartments variegated with numerous badges and devices, and the ceiling or roof is of oak-timber carved. At the north or entrance end is a handsome stone screen, with a gallery above it immediately under the great window, which is entirely filled with compartments of paintings representing the genealogy of Jesse. At the opposite end is the staircase, consisting of an ascent on each side, in a single flight, with superb railing of wrought metal highly gilt. Between these flights of stairs is the door leading into the ante-saloon, a spacious octagon, fitted up in the Louis Quatorze style, in carved oak and gold, and with costly marble door-cases. This room communicates with the principal apartments,—viz., the state drawing-room, library, dining-room, &c. The first-mentioned of these is distinguished by the magnificent specimens of Gobelins tapestry which line the walls in paneled compartments, and by the numerous articles of rich antique furniture with which it is filled. The library, which is also completed, is fitted up in the Gothic style, and has galleries around it.

XXV.—CHRONICLE OF OCCURRENCES.

From Nov. 1, 1837, *to Nov.* 9, 1838.

1837. November 1. Ordonnance promulgated by the King of Hanover, suppressing the fundamental law of the state of the 26th Sept. 1833.

— Convocation of the States-General established by the patents of 7th Dec. 1819.

4. The Cortes of Spain dissolved.

6. Riots at Montreal in Canada, between the partisans of Papineau and the supporters of government.

7. Revolution at Bahia, the leaders of which proclaim Bahia a free and independent republic (vide March 16, 1838).

15. Many persons arrested at Montreal on charges of treason.

16. The Treaty of Commerce between this country and Holland, which abolishes all discriminating and countervailing duties hitherto levied in the ports of these kingdoms upon their respective ships and cargoes, is ratified at the Hague.

19. The Spanish Cortes opened by the Queen-regent.

20. The Queen opens Parliament in person. In her Majesty's speech the state of affairs in Lower Canada is recommended to the serious attention of Parliament: the state of the poor in Ireland, and the necessity of improving the municipal corporations, are also impressed on the attention of Parliament.

Dec. 14. The Canadian rebels come to an engagement with the Royalists at St. Eustace, Lower Canada—are beaten from their entrenchments, and dispersed. The insurgents next day lay down their arms, their chiefs saving themselves by flight.

17. New ministry at Madrid:—Count Ofalia, first secretary of state, and president of the council.

19. Louis Philippe opens the Chambers of France. In his speech he states that the peace of Europe never appeared more assured—that, however, the civil war still desolates Spain—France remains faithful to the engagements of the Quadruple Alliance—the French are successful in Africa, Constantinah being in their possession—and that the state of the finances is flourishing, the revenue having been augmented.

29. The winter palace at St. Petersburg burnt.

— The American steam-boat 'Carolina' is attacked and burnt on the night of the 29th, near Schlosser, a village to the east of the Niagara, on the territory of the United States.

1838. January 5. The insurgents of Upper Canada, under the command of Dr. Mackenzie, surround Toronto, but are repulsed from the town by the governor, Sir Francis Head.

Proclamation of the President of the United States of America against the citizens who had taken, or might take, arms in favour of the insurgents of Canada; and message to the Senate on the subject of a revision of the laws, to prevent the attacks on neighbouring nations by the citizens of the United States.

10. The Royal Exchange burnt.

13. The Earl of Eldon died, aged 87.

15. The 'Vaudeville' theatre burnt at Paris.

16. The Right Hon. John George Earl of Durham is appointed Governor-General, &c., of her Majesty's provinces within and adjacent to the continent of North America, and also "High Commissioner for the

adjustment of certain important affairs affecting the provinces of Lower and Upper Canada."

26. The 'Killarney' steamer was wrecked off Cork harbour, when twenty-nine persons perished.

26. The '*Petite Château*' of the Duke Alexander burnt at Gotha.

Feb. 8. The navigation on the river Thames, which had been suspended in consequence of the frost having blocked up the river with ice for some weeks, was this day resumed, the thaw of the last two or three days having sufficiently cleared the river. So severe a winter had not been known for many years.

13. Riots at Lisbon. The battalion of the arsenal, and part of the troops of the national guard, mutiny, but the Generals Reguego and Bomfin, at the head of the troops of the line, disperse them.

— Inundations at Pesth, when the waters rose higher than in 1775. The mischief occasioned was very serious.

— The election of a deputy from the city of Hanover to the Assembly took place, when Dr. Meyer (who was opposed to M. Ruman, the government candidate) was elected. The King declared the election void, because (as stated in the protocol of the magistrates) it was made with a reservation of the rights acquired by the city of Hanover by the constitution of 1833.

17. The town of Osnabruch transmits a memorial to the Assembly of the Estates of Hanover, to be forwarded to the Germanic Diet, complaining of the suppression of the fundamental law, and praying the King to convoke the Estates shortly in conformity with the aforesaid law.

20. The King of Hanover opens the General Assembly of the Estates of the kingdom in person.

24. General Carrera enters Guatimala, but is obliged to abandon it.

March 6. A fire occurred in Paper Buildings, Temple, which did much damage to the chambers of several professional gentlemen, and destroyed a number of valuable documents.

13. The Minister for Foreign Affairs communicates to the secret committee of the United States of Holland the consent of the King to sign the twenty-four articles of the Treaty of London of the 15th Nov. 1831.

16. Bahia retaken by the troops of the Emperor of Brazil.

30. The dignity of Grand Vizier, and the court of justice over which he presided, abolished by an ordonnance of the Grand Seigneur.

April 12. Two leaders of the rebels in Upper Canada, named Lount and Matthews, were hung at Toronto for high treason. Others who had been captured were sentenced to banishment,

13. Madame J. Schophenhauer died at Weimar,

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May 10. Message of the President of the United States of America to Congress relative to the means for settling the financial difficulties which for a time prevents the government fulfilling its obligations.

11. M. Von Rudhart, the late chief minister of Greece, died at Trieste, shortly after his resigning his office and leaving that country. He was born in 1790, in Upper Franconia.

12. A grand dinner given by the Conservative members of Parliament to Sir Robert Peel at Merchant Taylors' Hall.

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17. The Queen's birth-day celebrated on this day.

— Died, at Paris, in his 84th year, Prince Charles Maurice de Talleyrand. He was born at Paris in 1754. He was visited on his death-bed by Louis Philippe, and his funeral was conducted with great pomp and solemnity.

31. A riot occurred at Boughton, near Canterbury, attended with loss of life. A lunatic named Thom, but who assumed the name of Sir W. Courtenay, Knight of Malta, and King of Jerusalem, having been released from confinement, attached himself to the lowest rabble, and incited them against the Poor Law Act. On this day, a farmer of the neighbourhood, whose servant had been induced to join the crowd which attended this Sir W. Courtenay, or Thom, sent a constable to fetch him back; but on his arrival on the ground he was shot by the madman Thom. On this outrage the military were called out, and Lieut. Bennett proceeded to take the murderer into custody, but Thom advanced, and, firing a pistol, killed the Lieutenant on the spot. His death was avenged by one of the soldiers, who fired at Thom, and laid him dead by the side of Lieut. Bennett. The people then attacked the military, who were compelled to fire, and it was not until several were killed that the mob dispersed. Many of the inhabitants considered Thom a saint.

June 7. Death of the Duchess d'Abrantes.

17. The large steam-ship, the "Great Western," arrived at New York from Bristol, after a passage of fifteen days. This is the first steamer which has crossed the Atlantic by the power of steam only, but it was followed, on the 18th, by the 'Sirius,' which left Cork on the 1st of June, and performed the passage in seventeen days. Both were welcomed with much enthusiasm; and on their departure were saluted with guns from the shipping and the shore.

22. The date of a despatch from General Espartero to the Spanish Minister of War, describing the taking of Penacerrada and the defeat of the Carlists, who left 300 dead on the field and 800 prisoners.

25. The Christino General Amor with 1200 infantry and 200 horse was attacked at Altura by a body of 2500 Carlists, when Amor with the cavalry alone escaped, the infantry having surrendered to the Carlists. On the same day 300 infantry and 140 horse fell into the hands of the Carlists at Herrera Rio Suegra.

28. The coronation of the Queen Victoria was celebrated this day. The procession left Buckingham Palace at ten o'clock and arrived at Westminster Abbey at half-past eleven. The appearance of the interior of the Abbey, crowded with rank and beauty and the most distinguished personages, was splendid in the extreme. Marshal Soult, the old opponent of the Duke of Wellington, was the French Ambassador, and much interest was excited in witnessing the cordial reception he met with from all classes of the people. Fairs were held in the Parks, and fireworks and other amusements provided for the people.

29. Twenty-eight members of the second Chamber of the Estates of Hanover address a memorial to the Germanic Diet contesting the legality of the suppression of the fundamental law by the King.

— The British Ambassador at the court of Persia throws up his diplomatic relations in consequence of the siege of Herat undertaken by Mahomed.

July 2.—On this day 175,000 newspapers were put into the post-office to be forwarded to the country.

13. A grand entertainment was given by the city of London to the Foreign Princes and Ambassadors who had been present at the

coronation. The dinner was also attended by the most eminent Englishmen.

29. Marshal Soult departed for France this morning. He visited the arsenal at Sheerness on his way, and dined with Vice-Admiral Sir R. Otway on board her Majesty's ship 'Howe,' 120 guns, lying in the Medway.

August 1. A great meeting was held at the London Tavern, the Duke of Wellington in the chair, for the purpose of adopting means to erect a monument to the memory of Lord Nelson. Nearly 14,000*l.* had been subscribed for the purpose.

16.—Parliament was this day prorogued by her Majesty in person.

18.—The general meeting of the British Association at Newcastle was held this day, Professor Whewell in the chair, in the absence of the Earl of Burlington. The successive meetings continued during the week. The sum of 3742*l.* 10*s.* was granted for the purpose of conducting several scientific operations.

Sept. 5.—The 'Forfarshire' steamer, from Hull to Dundee, was wrecked, when thirty-eight persons perished. Owing to the courageous conduct of the Outer Fern Lighthouse keeper, J. Darling, and his daughter, who ventured out in a tremendous sea in a coble, several of the passengers were rescued. There were fifty-three persons in the vessel before she struck.

6.—The ceremony of the coronation of the Emperor of Austria was performed at Milan, the capital of his Italian dominions; the iron crown of Lombardy having been brought in state from its sacred depository for the occasion. All the preparations were conducted with great magnificence, and many distinguished foreigners were present. The Emperor promulgated an amnesty which remits the punishment of all state offenders, and persons exiled for state offences are set at liberty and allowed to return to their country. By this act Gonfalonieri, Porro, Palavicini, and Visconti are restored to their homes and fortunes.

17.—The London and Birmingham Railway was opened throughout its entire length. The first train, conveying a number of the directors and other officers of the company, completed the distance from London to Birmingham in four hours and fourteen minutes; and the second train, carrying 200 passengers, in about six hours. The distance by the railway is about 112 miles.

— A treaty of commerce between Austria and England was concluded at Milan.

22. The date of a letter addressed to the Council of the Royal Society by the Duke of Sussex, announcing that, in consequence of his Royal Highness's limited income, he felt himself compelled to signify his intention of resigning, in November, the Presidency which he had so long held.

In this month the treaty of commerce between Turkey and England was concluded and signed by Mehemet Ali and Mr. Bulwer.

Oct. 9. Lord Durham issues a document on the occasion of proclaiming, as required by the act, the Indemnity Act passed during the last session, in which he justifies the policy pursued by him since his arrival in Canada, and announces his determination of resigning his government.

16. Intelligence was received by the 'Great Western' steamer (which performed the passage from New York in twelve days and a half) of the determination of the Earl of Durham to resign his appointments in Canada, in consequence of the limits to which his power had been reduced by the Declaratory Bill introduced by Lord Brougham on the 8th

of August, and passed through both houses by the 16th, declaring some of the principal proceedings of Lord Durham illegal.

22. A fire broke out at Harrow School, which destroyed great part of the building.

28. A hurricane visited London and its neighbourhood on this night, which did great damage to the buildings, &c., but without the destruction of human life, though many serious accidents occurred.

30. The steamer 'Liverpool' having met with severe storms on her first departure for New York, was compelled to put back into Cork, after having been out nine days. She sailed again for her destination on Nov. 6.

— About this time important news were received from India of the movements of the British troops in aid of the native princes. "The Chief of Cabul, Dost Mahomed Khan, whether through Russian influence, or a desire to fortify himself against the enmity of his brothers and of the Sikhs, joined the Persians in their attack upon Herat, and advised that the troops of Persia and Cabul should march upon the Indus. The ruler of Herat, Shah Kamran, as he now terms himself, having defeated the Shah of Persia, who relinquished his enterprise against him, and being joined by the Uzbeck and other tribes, is strong enough to try for the recovery of the crown of Cabul. The ulterior views of the actual chief of that place, and of the Prince of Herat, with respect to the territories east of the Indus, are sufficiently well known (from the representations of Col. Burnes) to render it highly inexpedient, on our part, or that of the Sovereign of Punjah, to permit the success of either; accordingly, a treaty has been concluded between the British and Sikh governments on the one part, and Shah Shooja, the dethroned sovereign of Cabul, on the other, to restore this prince to his rightful power."—Quoted by the Morning Chronicle from the Asiatic Journal. The British troops entered Affghanistan as auxiliaries of the legitimate king of Cabul; but no news have yet arrived of any engagement having taken place.

Nov. 1. Lady John Russell died.

Nov. 9. The new Lord Mayor, S. Wilson, Esq., was presented to the Judges in the Exchequer by the Recorder. The customary procession and dinner afterwards took place.

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